MADRAS

UNIVERSITY CALENDAR,

1891-92.

VOL. II.

EXAMINATION PAPERS.

University Calendar,
1891-92.

Madras:
PRINTED BY ADDISON & CO.,
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EXAMINATION PAPERS, DECEMBER, 1890.

MATRICULATION.

MONDAY, 15TH DECEMBER, 10 A.M. TO 1 P.M.

ENGLISH LANGUAGE.

Paraphrase :—

The Emptiness of Riches

Can gold calm passion or make reason shine?
Can we dig peace or wisdom from the mine?
Wisdom to gold prefer, for 'tis much less
To make our fortune than our happiness.
That happiness which great ones often see
With rage and wonder in a low degree,
Themselves unbless'd. The poor are only poor,
But what are they who droop amid their store?
Nothing is meaner than a wretch of state;
The happy only are the truly great.
Peasants enjoy like appetites with kings,
And those best satisfied with cheapest things.

II. Give the meaning of any *six* of the following phrases, and introduce each of the six into a sentence of your own — (1) to take heart, (2) to take to heart, (3) to have at heart, (4) to turn to account, (5) to call in question, (6) to set on foot, (7) to throw into the shade, (8) to make light of, (9) to bring to light.

III. 1. Rewrite the following sentences using in each the noun forms of the words italicised :—(*a*) The force was not *strong* enough to *maintain* order. (*b*) It is not *likely* that he will *fail*. (*c*) He was so *bold* as to *defy* his enemies.

2. Supply the words wanting in each of the following sentences:—(*a*) Be careful not to——expenses which you cannot——. (*b*) Do not——a course which is certain to——you to danger. (*c*) It is the duty of every government to——such measures as will ——the happiness of the people. (*d*) The prisoner was——with theft, but was——after a long trial.

IV. 1. Give a synonym for each of the following words:— (*a*) amicable, (*b*) underground, (*c*) brotherly, (*d*) forefathers, (*e*) felicity, (*f*) veracity.

2. Give *one* word to express each of the following:—(*a*) shut out, (*b*) put off, (*c*) put in, (*d*) get back, (*e*) come to life again, (*f*) unwilling to believe.

3. Give the meaning of the following words when used only in the plural number:—(*a*) effects, (*b*) compasses, (*c*) parts, (*d*) numbers.

V. 1. Each of the following words may take two prepositions after it. Illustrate the use of each word first with one and then with the other preposition, and show how the sentences in each pair differ in meaning:—(*a*) compare, (*b*) consist, (*c*) enquire, (*d*) part (verb).

2. Form *two* abstract nouns from each of the following words, and, by means of illustrative sentences, show how these nouns differ in meaning or in usage:—(*a*) accept, (*b*) observe, (*c*) receive, (*d*) succeed.

VI. 1. Expand each of the following simple sentences into a complex sentence containing *two* subordinate clauses:—(*a*) The Britons, having long been unaccustomed to war, were easily conquered by the Saxons, after the departure of the Romans. (*b*) It is not possible for any man to succeed without exerting himself. (*c*) But for his having come to my assistance, the work would have been too difficult for me to have accomplished it alone.

2. Combine together the following separate sentences so as to form *one* simple sentence:—The English were inferior to the French in number. The English defeated the French. The battle was long and well contested. There was no battle, it is said, that was fought during the war that was so desperate.

3. Analyse the following sentence into the members of which it is composed, pointing out the principal sentence and stating the nature and grammatical construction of each of the subordinate clauses:—Whatever the circumstances may have been, of this I feel sure that had he but followed the golden rule which requires that we should do unto others as we would that they should do unto us, he would never have found himself so utterly friendless.

VII Relate, as to a friend, in the indirect form, the following imaginary conversation between yourself and the Collector of a district, beginning your account of it with the words 'The Collector asked me,'—

"What brings you here? Is there anything you want to say to me"?

"I have come to ask you, Sir, to be so good as to confer on me the appointment which, I am told, is vacant in your office."

"You must tell me first what your qualifications are, and whether you have had any experience of office work."

"I cannot say, Sir, that I have had such experience, but I have passed all the prescribed tests, and can satisfy you as to my character and attainments."

"I shall try you for a week along with another man who has also applied to me for the appointment, and I shall give it to you, or give it to him, according as you shew yourself to be better than he, or he shows himself to be better than you."

VIII. Write a short essay of two pages on '*Rivers, and their uses.*'

Monday, 15th December, 2 to 5 p.m.

ENGLISH TEXT.

I. 1. Paraphrase the following passage in the form of a statement and not of an apostrophe :—

O woman! in our hours of ease,
Uncertain, coy, and hard to please,
And variable as the shade
By the light quivering aspen made;
When pain and anguish wring the brow,
A ministering angel thou!

2. Paraphrase :—

(*a*) 'Twere better that in fiery flame
The roofs should thunder down,
Than that the foot of foreign foe
Should trample in the town!

(*b*) What ardently I wished, I long believed,
And disappointed still, was still deceived:
By expectation every day beguiled,
Dupe of to-morrow even from a child.

II. 1. Parse fully the words in italics in the following :—

(*a*) Then let the warning bells *ring* out,
Then gird you to the fray,
Then *man* the walls like burghers stout,
And fight while *fight* you may.

(*b*) Life is *but* an empty dream.

(*c*) I have read, in the marvellous heart of man,
That strange and mystic scroll,
That an army of phantoms, vast and wan,
Beleaguer the human soul.

2. Correct the following :—(*a*) We had scarcely arrived off a little island which lay to the left, than we perceived a large quantity of sea fowl congregated about some object. (*b*) The little monkey was forgot. (*c*) O the blackest day for Scotland that she ever know before!

3. Of the following pairs of words write down those that rhyme correctly :—far, war; doom, tomb; man, wan; gone, stone; arrayed, shade; dead, said; blown, throne; cast, haste.

III. Re-write the following in the indirect order of speech *without making any unnecessary alterations* :—

Fritz was astonished at the huge size of the fish and repeatedly said to me, "How can so huge a monster have been brought here?" "I believe," said I to him, "that you yourself are the cause, for this is undoubtedly the very fish you fired at yesterday. Look at the marks of the two balls in the animal's head." "Indeed it is!" said Fritz, not a little proud of his achievement; "I know there were two balls in my gun, and here they are lodged to good purpose in the horrible creature's head."

IV. Give in simple prose a short account of the events narrated in the poem *Barbara Frietchie.*

V. Give the meaning of the following extracts and a short account of the incidents with which they are connected:—

1. Let us hear no complaints that our new spoons are somewhat short in the handle.

2. The bridegroom, when out hawking, gave his attendants the slip.

VI. Give the meaning of the following extract without using any figurative language:—(1) From Fate's dark book a leaf would have been torn. (2) Shake not the dying sinner's sand. (3) Woe is written on thy visage. (4) The Provost rises up calm, as though he had not tasted of the fell and bitter cup.

VII. Re-write the following, making the changes asked, *but without altering the meaning*:—

1. But for the precaution I had adopted, the raft must have been carried far beyond our reach. (*Change* "But" *into a clause, and* "had adopted" *into a participle.*)

2. We had not proceeded far on our return when Fritz began to show symptoms of fatigue. (*Begin with the conjunction* "Before.")

3. Nowhere does the continent of Europe approach Great Britain so closely as at the Straits of Dover. (*Change* "so closely" *into* "more closely.")

4. I had rather die honourably than live with dishonour. (*Use one word for* "had rather" *and change* "die" *and* "live" *into nouns.*)

VIII. Give the meaning of the following:—

(1) The cry went to my heart. (2) The noise of the tempest drowned my voice. (3) We discussed the provisions with a good appetite and pronounced them excellent. (4) The parting gleam of sunset kissed that haughty scroll of gold. (5) Curiosity gave a strong stimulus to our exertions. (6) My wife was full of her garden. projects. (7) Lent was strictly observed, perforce, by the besieged (8) To shrieve the dying. (9) Homespun breasts. (10) Like volcanoes flared to heaven the stormy hills of Wales.

TUESDAY, 16TH DECEMBER, 10 A.M. TO 1 P.M

SANSKRIT: TEXT-BOOKS AND GRAMMAR.

I. 1. Apply the rules of sandhi to the following examples:—

(*a*) कस्मिन्+चित्+नगरे. (*b*) एतत्+हि+अस्ति. (*c*) साग्रयः+अनग्रयः+च.

2. Dissolve the following compounds and state to which class each of them belongs:— (*a*) आमरणम्. (*b*) नरर्षभः. (*c*) कृतकृत्यः. (*d*) धर्मज्ञः. (*e*) पतिव्रता.

3. Give the nominative and instrumental in all the three numbers of अनड्वह्, अहन्, दिव्, पुंस्, वणिज्, and श्वन् and the locative singular of the feminine of तृतीय and चतुर्थ.

4. Give the two comparatives and the two superlatives of गुरु.

5. Give the (*a*) third person singular present (लट्) of अश् to eat. गृध्, ग्रह्, दंश्, भुज्, रुद्, वच्, मृज्, सद्, स्वप्, हा (to leave); (*b*) third person singular future (लृट्) of ग्रह्, जि, दृश्, भिद्, मुच्, वृत्, to be, रम्; (*c*) second person singular perfect (लिट्) of गम्, परि+स्वज्, मन्, या, वस् to dwell; (*d*) third person singular present passive of गै, प्र+वच्, स्तु, स्मृ, शंस्, हा to leave; (*e*) third person singular aorist (लुङ्) of जि and श्रु.

6. Give the infinitive of दृश्, and युज्; the gerund of आ+ह्वे, उद्+स्था, यज्, सं+कृ; and the past participle of आप्, छिद्, त्वर्, दिव्, धा to bear, पॄ, प्ये, मज्ज्, मुह्, वि+सद्, व्यध्, श्रम्.

II. 1. Give the English meanings of अन्येद्युः, अभीक्ष्णशः, अर्धचन्द्र, आमुष्मिक, कांदिशीक, कापुरुष, त्रपु, ब्रह्मघोष, मरुधन्वन्, महानस, मामक, विघस, समा, सरीसृप, सारथि, स्थपति, and two different meanings of each of the two words द्विज and पात्र.

2. Write short notes on जाह्नवी, त्रिवर्ग, नागसाह्वयं, नगरं, पाकशासन, बृहस्पति, शार्ङ्गधर, श्वपच, सुरभि, सौबलेय.

Complete the verses ending in (*a*) तेनेदं वर्तते जगत् ॥ (*b*) राजानः पन्नगा इव ॥

4 Who are the कौन्तेयाः and the धार्तराष्ट्राः? Give the names of each of the former and the name of the eldest of the latter

5. Give the Sanskrit names of each of the five books of the Panchatantra with their English equivalents.

III Explain the following in English :—

1 तृणेन कार्यं भवतीश्वराणां। किमङ्ग वाग्धस्तवता तरेण॥

2 न स विरौति न चापि स शोभते।
भवति योजयितुर्वचनीयता॥

3. तस्मात्सर्वप्रयत्नेन षट्कर्णं वर्जयेत्सुधीः॥

4. पैशुन्याद्भिद्यते स्नेहः वाचा भिद्येत कातरः॥

5. यथा ह्यामिषमाकाशे पक्षिभिः श्वापदैर्भुवि।
भक्ष्यते सलिले मत्स्यैस्तथा सर्वत्र वित्तवान्॥

IV. 1. Content is happiness Quote a passage from the Vana-parva containing a similar idea.

2 आजग्मुर्जाह्नवीतीरेप्रमाणाख्यं महावटम्॥
ब्राह्मणाणां परिक्लेशो दैवतान्यपि सादयेत्।
किंपुनर्मामितोविप्रा निवर्त्तध्वं यथेष्टतः॥
ऊषुस्तांरजनींवीराः संस्पृश्यसलिलंशुचि॥

Parse the underlined words and give the force of किंपुनः and यथेष्टतः.

TUESDAY, 16TH DECEMBER, 2 TO 5 P.M.

SANSKRIT: TRANSLATION

1. Translate into English :—

1. अथैवं गच्छति काले दन्तिलस्य कदाचिद्विवाहः संप्रवृत्तः। तत्रे तेन सर्वे तत्पुरवासनो राजसंनिधिलोकाश्च संमानपुरःसरमामन्त्र्य वस्त्रादिभिः सत्कृताः। ततो विवाहानन्तरं राजा सान्तःपुरः स्वगृहमानीयाभ्यर्चितः। अथ तस्य नृपतेर्गृ-

हसंमार्जनकर्ता गोरम्भो नाम राजसेवको गृहायातोऽपि तेनानुचितस्थाने उपविष्टो विज्ञायार्धचन्द्रं दत्त्वा निःसारितः। सोऽपि ततः प्रभृति निःश्वसन्नपमानान्न रात्रिमपि शेते। कथं मया तस्य भाण्डपते राजप्रसादहानिः कर्तव्येति चिन्तयन्नास्ते। किमनेन वृथा शरीरशोषेण। न किंचिन्मया तस्यापकर्तुं शक्यमिति.

2 अनन्तपारं किल शब्दशास्त्रं
स्वल्पं तथायुर्बहवश्च विघ्नाः।
सारं ततो ग्राह्यमपास्य फल्गु
हसैर्यथा क्षीरमिवाम्बुमध्यात् ॥

3 यमाश्रित्य न विश्रामं क्षुधार्ता यान्ति सेवकाः।
सोऽर्कवन्नृपतिस्त्याज्यः सदापुष्पफलोऽपि सन् ॥

4 अपायसंदर्शनजां विपत्तिमुपायसंदर्शनजां च सिद्धिम्।
मेधाविनो नीतिगुणप्रयुक्तां पुरः स्फुरन्तीमिव दर्शयन्ति॥

5 अत्तुं वाञ्छति शाम्भवो गणपतेराखुं क्षुधार्तः फणी
तं च क्रौञ्चरिपोः शिखी गिरिसुतासिंहोऽपि नागाशनम्
इत्थं यत्र परिग्रहस्य घटना शम्भोरपि स्याद्गृहे
तत्रान्यस्य कथं न भावि जगतो यस्मात्स्वरूपं हि तत्॥

6 शकुनिरुवाच।
किं वालिशमति राजन्नास्थितोऽसि विशां पते।
गतास्ते समयं कृत्वा नैतदेवं भविष्यति ॥
सत्यवाक्ये स्थिताः सर्वे पाण्डवा भरतर्षभ।
पितुस्ते वचनं तात न ग्रहीष्यंति कर्हि चित् ॥
अथवा ते ग्रहीष्यंति पुनरेष्यंति वा पुरम् ॥
निरस्य समयं सर्वे पणोऽस्माकं भविष्यति ॥

सर्वे भवामो मध्यस्था राज्ञश्छंदनिवर्तिनः
छिद्रं वहु प्रपश्यंतः पाण्डवानां सुसंवृताः
7. स प्राप्य नृपतिद्वारमवतीर्य तुरंगमात् ।
राजधानीं ससेनानीः सवैशम्पायनोऽविशत् ॥
प्रविश्य च सभामध्ये हर्षवाष्पार्द्रचक्षुषः ।
न्यस्तजानुः क्षितौ मूर्ध्ना ववन्दे चरणौ पितुः ॥
आलिलिङ्ग च तं राजा चुचुम्ब शिरसि क्षणात् ।
ग्रहीतुमैच्छदुत्सङ्गे स तु भूमावुपाविशत् ॥
द्रष्टुं पुनः पुनः स्प्रष्टुमतृप्तेनापि भूभुजा ।
विसृष्टोऽथ क्षणं स्थित्वा मातरं वन्दितुं ययौ ॥

II. Translate into Sanskrit:—

1. In a certain forest there lived a jackal named Chaturaka. He once found a dead elephant. He went round and round that carcass for a long time, but was unable to tear it open. In the meantime a lion approached. Seeing the lion come, the jackal bowed his head to the ground, and folding his hands spoke with humility as follows:—"O lord, I am thy servant, guarding the carcass for thy use." The lion replied: "I never eat an animal killed by another. I make a present of the elephant to you." Hearing that, the jackal said: "This is indeed worthy of a master towards his servants."

2. While a monkey was sitting on the brink of a well, and eating a mango, he looked down and saw his own image. He thought it was another monkey who was eating a mango inside. As he wished to frighten that other monkey in order to get that fruit, he cried out loudly. While he did so, the fruit fell from his mouth into the well and disappeared in the water; whereupon the monkey was very much grieved. Thus, if we covet the foods of another, we lose our own.

TUESDAY, 16TH DECEMBER, 10 A.M. TO 1 P.M.

GREEK: TEXT-BOOKS AND GRAMMAR.

I. 1. What changes do the letters β, π, κ undergo before μ, and ν before ξ? Give examples.

2. What is meant by *reduplication* in Greek Verbs? Exemplify its use in the verbs $\pi\acute{\iota}\pi\tau\omega$, $\pi\rho\sigma\beta\acute{\alpha}\lambda\lambda\omega$, $\ddot{o}\lambda\lambda\upsilon\mu\iota$, $\grave{\epsilon}\kappa\phi\acute{\upsilon}\omega$, $\theta\nu\acute{\eta}\sigma\kappa\omega$.

3. What particles are used in making simple questions? Some particles imply that a negative answer is expected. Which are they? Give an example for each case.

II. Write down :—

1. The comparative of *πιστός*, *ἄξιος*, *φίλος*, *χαλεπός*, *κακῶς*; the positive of *ἥσσων*, and *three* superlative forms of *ἀγαθός*.

2. The genitive singular, the genitive and the dative plural of *ὅστις*, *δόρυ*, *τλάς*, of the participle aorist 2 of *ἐκβαίνω*, and of the participle aorist passive of *καλέω*.

3. The English equivalents for *σφῶν*, *σφῷν*, *μύριοι*, *μυρίοι*, *ὤμοσαν*, *προσώμοσαν*, *ἐγενόμην*, *ἐγεινάμην*, *στάδιοι πεντήκοντα καὶ ἑξακισχίλιοι καὶ μύριοι*.

III. State the mood and the tense of each of the following verbal forms, and give, in tabular columns, the first person singular only of the present, future, aorist, and perfect (where found), indicative of each verb, in the same voice as the verbal form :—*ἥσθετο*, *ὠνήμεθα*, *συστραφέντες*, *θίγοιμι*, *ἐντύχοιεν*, *ἀφείλοντο*, *σημήνῃ*, *δεδιώς*, *ἐπεγγελῶν*.

IV. Express in Greek :—

(1) 19, 87th, in the year 1671. (2) To the same army; down the river; up the Tigris; it must be done by you. (3) We are as many as you; some say one thing, some another; they became hostile to each other. (4) The children of the Persians were instructed both to command and to obey.

V. 1. Add, in the proper case, an object to *γεύσασθαι*, *βοηθεῖν*, *μέχρι*, *λάθρα*, *ἀνά*, and to *μετά* when it means *after*.

2. Give the component parts of *ἀργυρώνητος*, *ἡνίοχος*, *καθηδυπάθησα*.

3. Express in English: *ἡ κυρία ἡμέρα*; *καλῶς ἔχει*; *εὖ σοι γένοιτο*; *εἰς ἔλεγχον ἐξελθεῖν*; *σύνοιδα ἐμαυτῷ*; *οἱ μὲν ἐκ τοῦ αὐτομάτου*; *ὡς τάχιστα*; *ἐν τῷ παρόντι*; *ἄλλοτε καὶ ἄλλοτε*.

VI. Translate and explain the syntactical construction of the words underlined :—

1. *ἡδὺ γὰρ φίλος*
κἂν νυκτὶ λεύσσειν, ὅντιν' ἂν παρῇ χρόνον.

2. *θνήσκω, παρόν μοι μὴ θανεῖν ὑπὲρ σέθεν.*

3. *οἵας οἷος ὢν ἁμαρτάνεις.*

4. *εἶχον δὲ τὰ δρέπανα ἐκ τῶν ἀξόνων εἰς πλάγιον ἀποτεταμένα, καὶ ὑπὸ τοῖς δίφροις εἰς γῆν βλέποντα, ὡς διακόπτειν, ὅτῳ ἐντυγχάνοιεν.*

5. *οὐκ ἔστιν οὔτως οὔτε πατρὸς εὐγενοῦς,*
οὔτ' εἶδος ἄλλως ἐκπρεπεστάτη γυνή.

6 Ἡ δὲ γνώμη ἦν ὡς εἰς τὰς τάξεις τῶν Ἑλλήνων ἑλώντων καὶ διακοψώντων

VII Translate and fully parse the words underlined —

1 οὐ γάρ τι τῶν σῶν ἐνδεὴς ταφήσεται

2. οὐκ οἶσθα Θεσσαλόν με κἀπὸ Θεσσαλοῦ πατρὸς γεγῶτα, γνησίως ἐλεύθερον,

3 σὺ γοῦν ἀναιδῶς διεμάχου τὸ μὴ θανεῖν, καὶ ζῇς παρελθὼν τὴν πεπρωμένην τύχην, ταύτην κατακτάς

4 οὗτοι δὲ ἔλεγον ὅτι πολλοὺς φαίη Ἀριαῖος εἶναι Πέρσας ἑαυτοῦ βελτίους

5 ἴσθι μέντοι ἀνόητος ὤν

VIII Point out a peculiar Greek construction in each of the following passages, and add your explanation —

1 ἀνάγκη δή μοι, ἢ ὑμᾶς προδόντα τῇ Κύρου φιλίᾳ χρῆσθαι, ἤ .

2 εἰ δὲ καὶ τῷ ἡγεμόνι πιστεύσομεν ᾧ ἂν Κῦρος διδῷ, τί κωλύει .

3 ἄνευ δὲ σοῦ φοβερώτατον ἐρημία

4 ὡς ἐμοῦ οὖν ἰόντος, ὅπῃ ἂν καὶ ὑμεῖς, οὕτω τὴν γνώμην ἔχετε.

IX Supply the ellipses in the following —

1 δεῖται σοῦ τήμερον τοῦτον ἐκπιεῖν σὺν οἷς μάλιστα φιλεῖς.

2 συντάττεσθαι τὴν ταχίστην

3 νομίζων τῶν τότε ἱκανώτατον εἶναι εὖ ποιεῖν ὃν βούλοιτο.

4 καὶ σὺ χαῖρε, Θεσσαλῶν ἄναξ θέλοιμ' ἄν. To whom, and by whom is the answer θέλοιμ' ἄν given?

X 1 Write explanatory notes on παρασάγγης, στάδιον, πλέθρον

2 Give a description of the battle at Cunaxa

Tuesday, 16th December, 2 to 5 p.m.

GREEK TRANSLATION

I Translate into English —

1 AL ὦ παῖδες, αὐτοὶ δὴ τάδ' εἰσηκούσατε πατρὸς λέγοντος μὴ γαμεῖν ἄλλην τινὰ γυναῖκ' ἐφ' ὑμῖν μηδ' ἀτιμάσειν ἐμέ

AD καὶ νῦν γέ φημι, καὶ τελευτήσω τάδε

AL ἐπὶ τοῖσδε παῖδας χειρὸς ἐξ ἐμῆς δέχου

AD δέχομαι, φίλον γε δῶρον ἐκ φίλης χερός

AL σὺ νῦν γενοῦ τοῖσδ' ἀντ' ἐμοῦ μητηρ τέκνοις.

AD πολλή γ' ἀνάγκη σοῦ γ' ἀπεστερημένοις.
AL ὦ τέκν', ὅτε ζῆν χρῆν μ', ἀπέρχομαι κάτω.
AD οἴμοι, τί δράσω δῆτα σοῦ μονουμένος,
AL χρόνος μαλάξει σ'. οὐδέν ἐσθ' ὃ κατθανών.
AD ἄγου με σὺν σοὶ πρὸς θεῶν ἄγου κάτω

2 Ἐγὼ καὶ διὰ μούσας
καὶ μετάρσιος ἦξα, καὶ
πλείστων ἀψάμενος λόγων
κρεῖσσον οὐδὲν Ἀνάγκας
εὗρον, οὐδὲ τι φάρμακον
Θρῄσσαις ἐν σανίσιν, τὰς
Ὀρφεία κατέγραψεν
γῆρυς, οὐδ' ὅσα Φοῖβος Ἀσκληπιάδαις ἔδωκε
φάρμακα πολυπόνοις ἀντιτεμὼν βροτοῖσιν.

3 ἐλθὼν δ' ἄνακτα τὸν μελάμπεπλον νεκρῶν
Θάνατον φυλάξω, καί νιν εὑρήσειν δοκῶ
πίνοντα τύμβου πλησίον προσφαγμάτων.
κἄνπερ λοχήσας αὐτὸν ἐξ ἕδρας συθεὶς
μάρψω, κύκλον δὲ περιβαλῶ χεροῖν ἐμαῖν,
οὐκ ἔστιν ὅστις αὐτὸν ἐξαιρήσεται
μογοῦντα πλευρά, πρὶν γυναῖκ' ἐμοὶ μεθῇ
ἣν δ' οὖν ἁμάρτω τῆσδ' ἄγρας, καὶ μὴ μόλῃ
πρὸς αἱματηρὸν πέλανον, εἶμι τῶν κάτω
Κορης ἄνακτός τ' εἰς ἀνηλίους δόμους
αἰτήσομαί τε· καὶ πέποιθ' ἄξειν ἄνω
Ἄλκηστιν, ὥστε χερσὶν ἐνθεῖναι ξένου,
ὅς μ' εἰς δόμους ἐδέξατ' οὐδ' ἀπήλασε,
καίπερ βαρείᾳ συμφορᾷ πεπληγμένος,
ἔκρυπτε δ' ὢν γενναῖος, αἰδεσθεὶς ἐμέ
τίς τοῦδε μᾶλλον Θεσσαλῶν φιλόξενος,
τίς Ἑλλάδ' οἰκῶν, τοιγὰρ οὐκ ἐρεῖ κακὸν
εὐεργετῆσαι φῶτα γενναῖος γεγώς.

4 Κῦρος δ' ὁρῶν τοὺς Ἕλληνας νικῶντας τὸ καθ' αὑτοὺς καὶ διώκοντας, ἡδόμενος καὶ προσκυνούμενος ἤδη ὡς βασιλεὺς ὑπὸ τῶν ἀμφ' αὐτόν, οὐδ' ὡς ἐξήχθη διώκειν ἀλλὰ συνεσπειραμένην ἔχων τὴν τῶν σὺν ἑαυτῷ ἑξακοσιων ἱππέων τάξιν ἐπεμελεῖτο ὅ τι ποιήσει βασιλεύς Καὶ γὰρ ᾔδει αὐτὸν ὅτι μέσον ἔχοι τοῦ Περσικοῦ στρατεύματος. Καὶ πάντες δ' οἱ τῶν βαρβάρων ἄρχοντες μέσον ἔχοντες τὸ αὑτῶν ἡγοῦντο, νομίζοντες οὕτω καὶ ἐν ἀσφαλεστάτῳ εἶναι, ἦν· ἡ ἰσχὺς αὐτῶν ἑκατέρωθεν ᾖ, καὶ εἴ τι παραγγεῖλαι χρῄζοιεν, ἡμίσει ἂν χρόνῳ αἰσθάνεσθαι τὸ στράτευμα.

5 Ὅτε δ' ἔξω τοῦ δεινοῦ γένοιντο καὶ ἐξειη πρὸς ἄλλους

ἀπιέναι, πολλοὶ αὐτὸν ἀπέλιπον· τὸ γὰρ ἐπίχαρι οὐκ εἶχεν, ἀλλ' ἀεὶ χαλεπὸς ἦν καὶ ὠμός· ὥστε διέκειντο πρὸς αὐτὸν οἱ στρατιῶται ὥσπερ παῖδες πρὸς διδάσκαλον. Καὶ γὰρ οὖν φιλίᾳ μὲν καὶ εὐνοίᾳ ἑπομένους οὐδέποτ' εἶχεν· οἵτινες δὲ ἢ ὑπὸ πόλεως τεταγμένοι ἢ ὑπὸ τοῦ δεῖσθαι ἢ ἄλλῃ τινὶ ἀνάγκῃ κατεχόμενοι παρείησαν αὐτῷ, σφόδρα πειθομένοις ἐχρῆτο. Ἐπειδὴ δὲ καὶ ἤρξαντο νικᾶν ξὺν αὐτῷ τοὺς πολεμίους, μεγάλα ἤδη ἦν τὰ χρησίμους ποιοῦντα εἶναι τοὺς ξὺν αὐτῷ στρατιώτας· τό τε γὰρ πρὸς τοὺς πολεμίους θᾶρσαλέως ἔχειν παρῆν, καὶ τὸ τὴν παρ' ἐκείνου τιμωρίαν φοβεῖσθαι αὐτοὺς εὐτάκτους ἐποίει.

6. (*Not from text-books.*)

Μετὰ δὲ τοῦτο ναῦς ἐκπέμπουσι δώδεκα οἱ Συρακόσιοι. Καὶ αὐτῶν μία μὲν ἐς Πελοπόννησον ᾤχετο, πρέσβεις ἄγουσα οἵπερ τά τε σφέτερα φράσωσιν ὅτι ἐν ἐλπίσιν εἰσίν· αἱ δ' ἕνδεκα νῆες πρὸς τὴν Ἰταλίαν ἔπλευσαν. Φυλάξαντες δ' αὐτὰς οἱ Ἀθηναῖοι εἴκοσι νανσὶ ἐξελθόντες μίαν μὲν ναῦν λαμβάνουσιν αὐτοῖς ἀνδράσιν, τὰς δ' ἄλλας οὐκ ἐδυνήθησαν, ἀλλ' ἀποφεύγουσιν ἐς τὰς Συρακούσας.

II. Translate into Greek —

The two armies were already drawn up and the sacrifices made, the omens being favourable to the Greeks. The generals now went down the ranks and, calling each man by name, reminded him of his wife and children, and exhorted him to fight for Cyrus. The Greeks, thereupon, charged the enemy, who broke and fled, being pursued until night came on. Then the victors lay down supperless and slept near their arms.

Tuesday, 16th December, 10 a.m. to 1 p.m.

LATIN: TEXT-BOOKS AND GRAMMAR.

I. 1. Decline in the *singular* triplex acies, inops filius, idem os (*mouth*).

2. Give the *gender* and *genitive singular* and *plural* of vulnus, quercus, tellus, incus, crater, lis, terricola, mos.

3. Give the *other degrees of comparison* of novus, inferioi, senex, maledicus, proximus, acerrime, maxime.

II. 1. Give the principal parts of seco, cogo, tego, texo, fingo, figo.

2. Write out in full the present indicative, imperfect subjunctive, and present imperative of edo (*to eat*), nolo, iacio, haurio, effero, prosum.

III. Give (1) the desiderative of edo (*to eat*); (2) the frequentative of venio; (3) the construction, with examples, of egeo, refert, peto, rogo; (4) the government, with examples, of the prepositions ante, sub, ultra, and of the conjunctions dum (*provided that*), quum (*since*), quamvis.

IV. Express in Latin :—(1) Any one can do that. (2) Tell me which of the two generals was at Rome on the 16th of December. (3) I shall not prevent you from going to Athens. (4) He would have won the battle if his soldiers had obeyed him. (5) I sent two letters to Cæsar to beg him to spare the consul Pompey.

V. Translate into English, explaining the syntax of the words in italics :—(1) Est *sapientis* iniuriarum oblivisci. (2) Sæpe *vale dicto* rursus sum multa locutus. (3) Cum iis una Commium, cuius auctoritas in his regionibus *magni* habebatur, mittit. (4) Est autem hoc Gallicæ *consuetudinis* uti viatores etiam invitos consistere cogant. Re-write this last sentence beginning with *Erat*.

VI. 1. Re-write in direct narration :—

Cæsar Germanis respondit: "Sibi nullam cum his amicitiam esse posse, si in Gallia remanerent; nullos in Gallia vacare agros qui illis dari possent.

2 Translate and scan the lines:

Et mihi facta via est, et me capit ultima tellus;
Accedam profugæ sarcina parva rati.

3. In what does the conjugation of such verbs as *capere* differ from that of other verbs of the 3rd conjugation?

VII. With reference to the italicised words, change (1) to the ablative absolute—*Hoc quum magna voce dixisset*, ex navi se proiecit. (2) to a clause—Multaque *credibili* tulimus maiora. (3) to passive—(*a*) Quos ego fraterno *dilexi* more sodales. (*b*) Te *iubet* e patria discedere Cæsar. (4) to active—(*a*) *Pugnatum est* ab utrisque acriter. (*b*) Interdicta mihi *cernitur* Italia (*c*) Quarum pars magna a feris barbarisque nationibus *incolitur*.

VIII. Give the force of the words in italics, translating the passages:—(1) Tu tamen i *pro* me. (2) *Pro* culpa ne scelus esse putet. (3) Qui *pro* portis in statione erant. (4) Non sunt *ut* quondam plena favoris erant (5) *Ut* peragas mandata, liber, culpabere. (6) Iudicis officium est *ut* res, ita tempora rerum quærere. (7) Civitas ampla atque florens, *ut* est captus Germanorum.

IX. Translate the following passages, pointing out anything *unusual* either in the *grammar* or in the *arrangement* of words :—

1. Etsi quæ subeunt, tecum, liber, omnia ferres,
Sarcina laturo magna futurus eras.
2. Utque comes radios per solis euntibus umbra,
Cum latet hic pressus nubibus, illa fugit.
3. Hac dominum tenus est illa secuta suum.
4. Nunc precor ut vivant, et non ignava legentum
Otia delectent, admoneantque mei.

X. Translate with explanatory notes :—

1. Tu si Mæonium vatem sortita fuisses,
Penelopes esset fama secunda tuæ.
2. Namque ea vel nemo, vel qui mihi vulnera fecit,
Solus Achilleo tollere more potest.
3 Nactus idoneam ad navigandum tempestatem, *tertia* fere

vigilia solvit .... Ipse *hora* circiter *diei quarta* cum primis navibus Britanniam attigit.—(The explanation in 3 to bear on the words in italics.)

XI. 1. Give *one* proper name for—(*a*) Dux Neritius; (*b*) Hectoris uxor; (*c*) Ruricola deus; (*d*) tumidis qui regnat in undis; and *two* proper names for Tyndaridæ.

2. Write a description as exact as you can of the bridge which Cæsar built over the Rhine.

Tuesday, 16th December, 2 to 5 p.m.

LATIN: TRANSLATION.

I. Translate into English:—

1. Genus hoc est ex essedis pugnæ: primo per omnes partes perequitant et tela coniciunt, atque ipso terrore equorum et strepitu rotarum ordines plerumque perturbant; et quum se inter equitum turmas insinuaverunt, ex essedis desiliunt et pedibus prœliantur. Aurigæ interim paulatim ex prœlio excedunt, atque ita currus collocant, ut, si illi a multitudine hostium premantur, expeditum ad suos receptum habeant. Ita mobilitatem equitum, stabilitatem peditum in prœliis præstant, ac tantum usu quotidiano et exercitatione efficiunt, uti in declivi ac præcipiti loco incitatos equos sustinere et brevi moderari ac flectere, et per temonem percurrere et in iugo insistere et se inde in currus citissime recipere consuerint.

2. In eo prœlio ex equitibus nostris interficiuntur IV et LXX, in his vir fortissimus Piso, Aquitanus, amplissimo genere natus, cuius avus in civitate sua regnum obtinuerat, amicus ab senatu nostro appellatus. Hic cum fratri intercluso ab hostibus auxilium ferret, illum ex periculo eripuit; ipse, equo vulnerato deiectus, quam potuit fortissime restitit. Quum circumventus multis vulneribus acceptis cecidisset, atque id frater, qui iam prœlio excesserat, procul animadvertisset, incitato equo se hostibus obtulit atque interfectus est.

3 Me miserum! quanti montes volvuntur aquarum!
Iam iam tacturos sidera summa putes.
Quocunque aspicias, nihil est nisi pontus et aer,
Fluctibus hic tumidis, nubibus ille minax.
Inter utrumque fremunt immani turbine venti:
Nescit cui domino pareat unda maris.
Nam modo purpureo vires capit Eurus ab ortu;
Nunc Zephyrus sero vespere missus adest.
Rector in incerto est, nec quid fugiatve petatve,
Invenit: ambiguis ars stupet ipsa malis.

4. Scilicet ut fulvum spectatur in ignibus aurum,
Tempore sic duro est inspicienda fides.
Dum iuvat, et vultu ridet fortuna sereno,
Indelibatas cuncta sequuntur opes.
At simul intonuit, fugiunt; nec noscitur ulli
Agminibus comitum qui modo cinctus erat.
Atque hæc exemplis quondam collecta priorum,
Nunc mihi sunt propriis cognita vera malis

5. Hic status, hæc rerum nunc est fortuna mearum,
Debeat ut lacrimis nullus adesse modus.
At mea sunt, proprio quamvis mœstissima casu,
Pectora processu facta serena tuo.
Hoc eventurum iam tum, carissime, vidi,
Ferret adhuc istam cum minor aura ratem.
Sive aliquod morum, seu vitæ labe carentis
Est pretium, nemo pluris habendus erit.
His ego commotus, dixi tibi protinus ipsi.
Scena manet dotes grandis, amice, tuas.

6. Talia tentabat sic et tentaverat ante;
Vixque dedit victas utilitate manus.
Egredior, sive illud erat sine funere ferri,
Squalidus, immissis hirta per ora comis.
Illa, dolore amens, tenebris narratur obortis
Semianimis media procubuisse domo.

(*Not from text-books.*)

7 Alexander, exacta pueritia, per quinquennium sub Aristotele, doctore inclyto, crevit Accepto deinde imperio, regem se terrarum omnium ac mundi appellari iussit; tantamque fiduciam sui militibus fecit, ut illo præsente nullius hostis arma, nec inermes, timuerint. Itaque cum nullo hostium unquam congressus est, quem non vicerit; nullam urbem obsedit, quam non expugnaverit; nullam gentem adiit, quam non calcaverit. Victus denique ad postremum est, non virtute hostili, sed insidiis suorum.

II. Translate into Latin:—

Athens, the most famous city of Greece, was burnt by Xerxes in B.C. 480. It was rebuilt under the administration of Themistocles, and adorned with public monuments by Cimon and Pericles, in whose time it reached its greatest splendour. When Greece had become part of the Roman empire, Athens was still a flourishing city, where the noblest citizens of Rome were wont to send their sons to complete their education.

Tuesday, 16th December, 10 a.m. to 1 p.m.

ARABIC: TEXT-BOOKS AND GRAMMAR.

1. Paraphrase:—

(١) كن من الناس جانبا * وارض بالله صاحبا * قلب الناس كيف شئتَ * تجدهم عقاربا * (٢) في هذه السنة كيف حال السنة في بلادكم يا متبع السنة (٣) البلاء موكل بالقول (٤) لحن الجبال القواصف لا يزعزعنا العواصف *

1 Parse the underlined words in the above.

2. Re-write in Arabic the two couplets with correct اعراب

II. Answer any two of the following questions :—

1. Mention any *one* of .—

مصائب الدنيا - محاسن الاخلاق - مكارم الاخلاق - جبال الدنيا - لذائذ الدنيا *

2. With what class of people should مزاحت be avoided ?

3. What is the دعا for the case of وجع الاضراس ?

4. What are the Arabic names for the five fingers ?

5 Enumerate the things which lead to poverty.

III. 1. Give (*a*) the زوج of

العلم - العبد - الاخرى - الارض - الصيف - الحلو - اليوم - الشمال - الحلف - الرطب - الناطق - القدم *

(*b*) the مترادف of

نفس - قلب - سيف - صف - عرف - عجّة - نراكم - لاادري *

(*c*) the English of

قلبسوة - مسّح الحنطة - كراغ - كمّ - شوى - إي والله - اشهدك الله - نارحة - السيف المسلول - لا تعب عبا - حزمة من الحطب - قدوم *

(*d*) the singulars of

قيا صرة - حيتان - عدادل - ميا سر - مدن - مصا ييح - ايادي - ايدي *

(*e*) the plurals of

ماء - سكّة - جارية - نار - إصبع - حائط - إناء - حجة *

2. Distinguish between

بيت and دار - خَلق and خُلق and خِلق - عِشاء and عَشاء - ظَهر and ظُهر *

3. Complete the following sentence

إن لم نفعل ثلثا لم نفعل ثلثاً

4. What is the وجه تسمية of رابعة ? and why was the title سفيان given to ثوري ?

IV. Inflect with all vowel points the مصارع مثبت معروف با لام تاكيد وبون ثقيلة وخفيفة - مصارع معروف منفي بلم - وامر حاضر معروف of قول فتح - علم

2. Write in Arabic the following numbers both masculine and feminine whenever two genders are used.—3, 8, 14, 19, 70, 3000, 4th, 6th, ¼, ⅓.

V. 1. How are the following formed:—

المتعدى - الجمع السالم - الاسم المثنى - الامر الحاضر

2. In what case is the passive voice chiefly used?

VI. Enumerate

1. حروف الاستفهام - حروف الشرط - حروف الزيادة - الافعال الناقص -

2 The measures (اوزان) of الاسم الرباعي المجرد - الاسم الثلاثي المجرد

VII Write down

1. (*a*) the tense, (*b*) the meaning, (*c*) the نعليل and (*d*) the ماخذ of عد - كل - مرمي - زنة *

2. The حاصيت of

فتح - كرم - افعال - تفعيل - استفعال - مفاعلة *

3. Examples of صحاح - اجوف - ناقص - مهموز

4, Some forms (not less than six) of الجمع المكسر

VIII. Define المشتق - الجامد - اسم الظرف - التميز

IX. 1. Relate briefly any one of the following stories:—

ابو سليمان - جديد - كهمس ابن الحسين *

2. Write short notes on

ابراهيم ادهم - مالك بن دينار - حاتم اصم - منصور ابن عمار *

TUESDAY, 16TH DECEMBER, 2 TO 5 P.M.

ARABIC: TRASLATION.

I. Translate into Arabic:—

1. 'O Kazi,' said the Shaikh, 'I came here from a distant country to buy some cloth. At the gate of the city I met this lame man, who asked for alms. He then begged me to let him ride behind me on my horse I agreed and he mounted the horse; but when we arrived at the market-place he refused to dismount. He said the horse belonged to him and not to me.' The Kazi ordered them to leave the horse and to come to court the next day. On the morrow, a large crowd assembled to hear the decision of the judge.

The Kazi said to the Shaikh, 'Can you recognize your horse'? 'Yes, my lord,' he replied. 'Then follow me,' said the Kazi They both went to the stable and not only did the Shaikh recognize the horse, but the horse, recognized the Shaikh. When the lame man entered the stable, the horse kicked at him. The Kazi decided the case in favour of the Shaikh and all men praised his just decision.

2 (*a*) The man comes in front. (*b*) Go away. (*c*) How many horses are there? (*d*) How are you to-day? (*e*) Come every other day. (*f*) Please, sit down

II Translate into English :—

1. قيل لاميرالمومنين عمر بن الخطاب يا اميرالمومنين لم نحمل علي نفسك شقة الليالي و الايام تصلح بالايام امورالناس ونقوم بالليالي لطاعة الله تعالى ولا نستريح لاليلا ولانهارا - قال لواستريح بالايام لضاعت الرعية ولواستريح بالليالي لضاعت نفسي في القيمة - فمن كان مشغولا بامرنفسه وبامرغيره فكيف يمكنه الاستراحة *

قيل كان عامربن تراجيل امام عراقين - فجاء سفيةٌ يوماً وشتمه كثيرا و هوينظر اليه ويستمع - فاذا فرغ من ذالك قال ان صدق هذا كله فاعف عني وان كذب فاعفوعنك - قال هذا وقام ودخل في الصلوة رحمة الله *

2. صبرت من اللذات حتي تولت
والزمت صبرها فاستمرت
وكانت علي الايام نفسي عزيزة
فما رات عزمي علي الذل ذقت
فقلت لها يا نفسي كوني كريمة
فقد كانت الدنيا لنا ثم ولت
سا صبر نفسي ان في الصبر راحة
و راضي لديانا و ان هي قلت
فكم غمرة جاءت باموالج غمرة
تجرعتها بالصبر حتي تجلت

3. س - أنظر طبخ الطعام ام لا - ج - الان ذبحت الشاة

وتجعل الامة اللحم في البرمة و توقد النار و تطحن دقيق الحنطة - س ضع قدام كل احد صحنا من زربيان وخبزا واحدا بين اثنين وقدحا مملوّاً من المرق في كل قدح مصغتين من اللحم بين اثنين - فاذا قل المرق صب في البرمة ماء وزد فيها ملحا واغرف غرفة ولا تنزلنهما من فوق المنصب * لا تتكبر ولو مثقال حبة من خردل علي احد من الانسان - ولا تصغر احدا ابدا كائنا من كان - ولا تنظر على عيوب الغير - وانظر عيوبك وابك هل تعلم انت شر عند الله ام خير - والق لقمة في في السائل سيّماً إن كان مسافرا - واذا رايت يتيماً فكن له ابا كريماً - واذا سالك سائل فاعطه ولو شق تمرة وقل له قولا كريما *

4. (١) الكلام هذا فارغ (٢) في هذه الدار قاعة وثلثة بيوت (٣) بكم تبيع هذا سيدي (٤) تقدر تعطيني جواب هذه المسئلة (٥) انا اخاف من النوجه الى هناك (٦) ان لم ترافقني لا اروح (٧) قل له يجي هنا (٨) صباح الخير يا سيدي (٩) هل شفت فلان (١٠) ايش من فلوس عندك *

TUESDAY, 16TH DECEMBER, 10 A.M. TO 1 P.M.

PERSIAN: TEXT-BOOKS AND GRAMMAR.

١ كسان را نشد ناوک اندر حریر
کہ گفتم بدوزند سندان بہ تیر

٢ بموسی کہن عمر کوتہ امید
سرش کرد چون دست موسی سفید

٣ شب براگندہ خسپد آنکہ بدید
نبود وجہ بامداد انش

٤ یکي را زشت خوئي داد دشنام
تحمل کرد و گفت ای نیک فرجام

٥ بترزانم کہ خواهي گفت آني
کہ دانم عیب من چون من ندانی

۶ نباید سخن گفت با ساخته
نشاید بریدن بیداخته

۷ چو کعان را طبیعت بے ہنر بود
بیمر زادگي قدرش بیفزود

۸ جوان دیدم از گردش دہر پیر
خدنگش کمان ارغوانش زریر

۹ آنرا کہ عقل و ہمت و تدبیر و رای نیست
خوش گفت پرده دار کہ کس درسرای نیست

۱۰ بخردي درش زجر و تعلیم کن
بہ نیک و بدش وعده و بیم کن

(1) Re-write in simple Persian the first six couplets (2) Write short notes in explanation of the allusions in the 2nd and 7th couplets. (3) Re-write the 8th couplet, avoiding the use of metaphorical language (4) Point out and explain the صنعت in the 9th and 10th couplets. (5) Parse (using Persian terms) the underlined words. (6) Show the exact force of ي - کہ - م in the 4th and 5th couplets. (7) State under what rule the original الف of بیفزود in the 7th couplet is changed into ي -

II. Write answers to any two of the following three questions. -

1. Give in chronological order and in order of merit the names of the works of Sadi

2. Write short notes on

رخش - سام - نکش - ابدال - داود طائي

3. Give the substance of the advice referred to in

حکیمي پسران را پند ہمي داد

III. Give-

1. The different significations of برگ - پوستین - محل - غازي

2. The meaning in simple Persian of the following words and phrases.-

ژاژ خاي - دہ مرده گوي - خشک سال - سیر چال - پا بدامن آوردن - گوش داشتن - آفتاب بکوہ رفتن - زبان در دہادن - انگشت پیچیدن - دوشاب - ضربت لازب - لوچ - عوچ - ارامل - خلاب - اعداق *

3. The derivation of فیلسوف - خرسک - بتر - دشنام - سیکي

IV Quote—1. A couplet from the Bostan similar in sentiment to the words "Do unto others as you would be done by."

2. Four proverbs from your text-books.

3. A Ruba'i beginning with the words بادشاهي پسر بمکتب داد

V. Enumerate any two of the underlined things or persons in —

(۱) سه چیز بے سه چیز پایدار نماند (۲) دو کس دشمن ملک و دین اند (۳) دو چیز مخالف عقل است (۴) رفیقي که غائب شد ای نیکنام * دو چیز است ازو بر رفیقان حرام *

VI. In what بحر is the Bostan written. Give the تقطیع of any مصراع

VII. 1. In connection with which story do the following lines appear in the Bostan :—

بخواه و مدار ای خواجه از کس باک
که مقطوع روزي شود شرمناک
وگر خود پرستي شکم طبله کن
در خانهٔ این و آن قبله کن

2 What was the philosopher's reply to—

درختان را که خدای عزوجل آفریده برومند - هیچ یک را آزاد نخوانده اند مگر سرو را که ثمره ندارد *

VIII. 1. What is the force of ین in برین and in بهین ?

2. What is the comparative of حسن and فضل ? Distinguish between الف and همزه

3. When is را the sign of the objective, omitted?

4. When is فک اضافت used?

5. Write four compound words formed as under (a) a noun and a participle; (b) adjective and substantive.

6 What is meant by

مفرس - معرب - مخفف - إبدال - ضمیر غیر ملحق بر حقیقي - ?

7. Give the second person singular imperative of each of the following :—

روفتن - رفتن - شنودن - ربودن - کاستن - خفتن - نگریستن - فرستادن *

8 Explain the formation of (a) verbal nouns, (b) diminutives, (c) adjectives denoting similitude.

TUESDAY, 16TH DECEMBER, 2 TO 5 P M.

PERSIAN: TRANSLATION.

I. Translate into Persian :—

1. The feelings of Clive during his first years at Madras are described in his own letters. Thus he writes to his cousin : " I may safely say I have not enjoyed one happy day since I left my native country I am not acquainted with any one family in the place, and have not assurance enough to introduce myself without being asked—letters to friends were surely first invented for the comfort of persons situated as I am." There is no doubt that the climate of Madras was unfavourable to his health, and his duty at the desk ill-suited to his temper When a writer at Madras, he twice one day snapped a pistol at his own head Finding it miss fire, he calmly waited until his room was entered by an acquaintance, whom he requested to fire the pistol out of the window The gentleman did so and the pistol went off At this proof that it had been rightly loaded, Clive sprang up, with the exclamation : " Surely then I am reserved for something ! " and relinquished his design

2. (*a*) Shut the door and return punctually at 4 o'clock. (*b*) I returned his visit. (*c*) What is the first-class fare by steamer from Madras to Rangoon. (*d*) Talk slowly, don't chatter so fast.

II. Translate into English :—

1. جالینوس ابلهي را دید دست در گریبان دانشمندي زده بیحرمتي همي کرد - گفت اگر این دانا بودي کار او بنادان بدینجا نرسیدے مثنوي دو عاقل را نباشد کین و پیکار * نه دانائي ستیزد با سبکسار * اگر نادان بوحشت سخت گوید * خردمندش بنرمي دل بجوید * گفت چندان مبالغت در وصف ایشان کردي و سخنهاي پریشان گفتي که وهم تصور کند که تریاق اند یا کلید خانهٔ ارزاق - مشتي متکبر مغرور و معجب نفور مشتغل مال و نعمت و مفتتن جاه و ثروت که سخن نگویند الا بشفاعت - و نظر نه کنند الا بکراهت * خلعت سلطان اگرچه عزیز است جامهٔ خلقان خود ازان بعزت تر - و خوان سلطان اگرچه لذیذ است خردهٔ انبان خویش ازان بلذت تر - بیت سرکه از دست رنج خویش و تره * بهتر از نان ده خداي و بره *

2 اگر هست مرد از هنر بهره ور
هنر خود نگوید نه صاحب هنر
بسوگند گفتن که زر مغربي است
چه حاجت محک خود نگوید که چیست

بهائم خموشند و گويا بشر
پراگنده گوي از بهائم بتر
چو مردم سخن گفت بايد بهوش
وگرنه شدن چون بهائم خموش
نه نطق است و عقل آدمي زاده فاش
چو طوطي سخن گوي و نادان مباش
ترا ديده در سر نهادند و گوش
دهن جاي گفتار و دل جاي هوش
مگو باز داني نشيب از فراز
نه گوئي که اين کوته است آن دراز
يکي را که علم است و تدبير و راي
گرش پاي عصمت نخيزد ز جاي
بيک خرده مپسند بروي جفا
بزرگان چه گفتند خذ ما صفا
بود خار و گل باهم اي هوشمند
چه دربند خاري تو گلدسته بند
مده آبروي ريا را محل
که اين آب در زير دارد و حل
نيوزد عسل جان من زخم نيش
قناعت نکو تر بدو شاب خويش

3. (۱) فنرساعت من شکسته است (۲) دست شماه بسته است (۳) باطراف چادر تجيري بکشيد (۴) امرور بايد بروم ميدان مشق (۵) همه درختها را بايشت بکن (۶) بآبخورهٔ اين درخت آب بده *

4. واعظي بغايت سيه چرده بود - شب شيشهٔ مرکب بر جامه اش ريخت و خبرنه شد - بگاه برخاست - و جامه در بر کرده بمسجد در آمد - چون روز روشن شد اصحاب گفتند - مولانا! چه کاراست که کردهٔ ؟ ظريفي درميان بود - گفت پيچ نکرده عرق کرده *

TUESDAY, 16TH DECEMBER, 10 A.M. TO 1 P.M.

URDU TEXT-BOOKS AND GRAMMAR.

I. 1. سودا کا تذکرہ رقم ہو *

2 مثنوي حسن کس بحر مین لکھي گئي اور اُسکا وزن کیا ہی *

3 تمہارے درسي کتب سے پانچ ضرب الامثال مع محل استعمال لکھو *

II. 1. مرقومہ ذیل الفاظ و محاورات کے معنے سلیس ہندوستاني مین لکھئے —

قاب قوسین - ماہ نخشب - دھکدکي - دن کي ہوچکے تو رات کي کہنا - ستھورا - چھدگلیا - علم لدنّي - مرغ قبلہ نما - ماہي مراتب - سوکھے دہان مین پاني پڑنا - پتھبائي - کلاوہ - مسنک - دلمیان - تیر نراز و ہودا - کفک *

2 اِن الفاظ کے اجزا اور اسکے معنے کیا ہین ؟

یہان - وہان - روشنائي - انجان - دیاس - گرما - وغیرہ - في الفور *

3 ہر ایک لفظ ذیل کے متعدد معنے لکھو —

دم - پردہ - گرہ - ریس - رہن - عبار - بان - آن - چاند - ٹیکا *

III. 1 نظم و نثر مرقومۂ ذیل کي شرح سلیس عبارت مین کیجئے —

۱ آسمان پر بھي منعدم ہی خواب
کھلا رہتا ہی دیدۂ مہتاب

۲ تسپر ہی یہہ کہ بہر طرۂ زر
لگے ہی چور شمع کو آکر

۳ نظر آئے اتنے جو اکبار چاند
زمانے کے صدمہ کو لگے چار چاند

۴ صفائي یہہ پوشاک کی دیکھیو
نظر سوچ مین ہی کہ میلي نہو

۵ مباف زري نے کیا ہی غضب
دیا ہی گرہ دن کو دبال شب

٦ ہوس ہو نہ دیکھہ اسکے زیور کو پھر
کھے تو کہ ٹیکا تھا سب اسکے سر

2. الفاظ خطوط کشیدہ کي ترتیب (parsing) کیجئے ؟

3. چھٹوین بیت کي ترکیب کرو *

IV سوالات ذیل سے کسي دو کے جواب لکھئے —

(۱) کونسي خصلتین قاصد مین چاہین ؟

(۲) کیکاوس شاہ کے پہلے نامے کا مضمون کیا تھا ؟

(۳) اُس قاصد کا نام کیا تھا جو کیکاوس شاہ کا نامہ لے گیا ؟

(۴) ماہرخ - نجم النسا اور فیروز شاہ بے نظیر کے قصے سے کیا علاقہ رکھتے ہین ؟

(۵) گھوڑے کے عیوب کے نام معہ معنے لکھو جو مثنوي میر حسن مین مذکور ہین ؟

V ہوا جبکہ تو خط وہ شیرین رقم
پڑھا کر لکھے سات سے تو قلم

سخن مولوي کا یہہ سچ ہی قدیم
کہ آگے قضا کے ہی احمق حکیم •

(۱) پہلی بیت مین قلم سے کیا مراد ہی ؟ اسکے اقسام لکھئے *

(۲) دوسری بیت مین مولوي سے کون مراد ہین ؟ اُن کا شعر کیا ہی ؟

VI 1. ابیات مرقومۂ الذیل مین صنائع کیا ہین ؟

وہ موتي کي سیلي وہ تن کي دمک
شب تیرہ مین کہکشان فلک

فقط مونہون کي پڑي ہاے زیب
کہ جسکے قدم سے گہر پاے ریب

فقط کان مین ایک بالا پڑا
کھے تو کہ تھا مہ کے ہالا پڑا

بلا ساقیا مجھکو اک جام مُل
جواني پہ آیا ہی ایام گل

پلا ساقیا جام جم سے وہ مل
کہ غائب کا احوال ظاہر ہو کل

2. یہہ ابیات کس کے شان مین ہین ؟

نہ لگوائے کبھي مسنک پہ سیندور
بہت اسکي نزرگي سے ہی یہہ دور
ہوا کیا گر نہین کرتا وہ تزئین
اُسے کہتے ہین اہل طبع رنگین
مہاوت دل ہی نالہ بھالہ بردار
ہی چرخي پیچش آہ شرر بار

1. VII. فارسي اور عربي دونون مین اور صرف عربي مین کونسے حرف نہین ہوتے ؟

2. ۱۹-۱۴-۵۶-۷۸-۸۵-۱۲۰ کو حروف ابجد مین رقم کرو*

3. کیا اور کون - بے اور نا - کوئي اور کچھہ - یہہ اور وہ - مثبت اور منفی اور نہی - مثبت اور معروف مین کیا فرق ہی ؟

4. متکلم - مخاطب اور غائب کے کیا معنے ہین ؟

1. VIII. ماضی - مضارع - مستقبل - امر تعظیمی - فعل معروف - اسم حالیہ اور معرفہ بنانے کا طریقہ کیا ہی ؟

2. اسما و حروف ذیل مین کونسے مذکر ہین اور کونسے مونث؟ سرکار - دریا - برسات - تعویذ - بدوبست - بلبل - د - س - م - ن - و - ي *

3. حاصل مصدر سے کیا مراد ہی ؟ کیونکر بناتے ہین ؟

4. ضمیر سے کیا فائدہ ہی ؟ مثال دیکر سمجھاؤ *

5 مصدر متعدي کو پھر متعدي بنا سکتے ہین یا نہین - اگر بنا سکتے ہین تو اسکا قاعدہ کیا ہی ؟

1. IX. اسم تصغیر کي نشانیان اور ہر ایک کي مثال دو *

2. علم کی کتنی صورتین ہین ؟

3. مصدر - مفعول - تمیز - مرکب غیر مفید اور اضافت کے اقسام مع مثال لکھو *

TUESDAY, 16TH DECEMBER, 2 TO 5 P.M.

URDU: TRANSLATION AND COMPOSITION.

I. Translate into Urdu.

1. Observe the accommodation of the most common artificer or day-laborer in a civilised and thriving country, and you will perceive that the number of people, of whose industry a part, though but a small part, has been employed in procuring him this accommodation, exceeds all computation. The woollen coat, for example, which covers the day-laborer, as coarse and rough as it may appear, is the produce of the joint labor of a great multitude of workmen. The shepherd, the sorter of the wool, the wool-comber, the dyer, the spinner, the weaver, with many others, must all join their different arts in order to complete even this homely production.

2. If the Rocky Mountains bordered the eastern coast of North America, and closed against the nations of the east and of Europe the entrance to the rich valley of the Mississippi; or if that immense chain extended from east to west across the northern parts of the continent and barred the passage of the polar winds which now rush southward unobstructed; or if, even preserving all the great present features of this continent, we suppose only that the interior plains were slightly inclined towards the north, the climate, and with it the vegetation and the animals, would undergo the most important modifications.

II Translate into English:—

۱ — مین اس پیر مرد کا یہہ احوال اور اس نازنین کا حسن و جمال دیکھکر مرجھا یا گیا - اور مرد ے کی طرح بیجان ہو کر گر پڑا - وہ مرد بزرگ یہہ میرا حال دیکھکر شیشہ گلاب کا لے آیا - اور مجھہ پر چھڑکنے لگا - جب مین چیتا اٹھکر اس معشوق کے مقابل جا کر سلام کیا - اُسنے ہرگز نہ ہاتھہ اٹھایا اور نہ ہونٹ ہلایا - مین نے کہا اے گلبدن اتنا غرور کرنا اور جواب سلام کا ندینا کس مذہب مین درست ہی - بیت * کم بولنا ادا ہی ہرچند پر نہ اتنا * مند جا ے چشم عاشق تو بھي وہ منہہ نہ کھولے * واسطے خدا کے جس نے تجھے بنایا ہی کچھہ تو منہہ سے بول - ہم بھي اتفاقا یہاں آ نکلے ہین مہمان کي خاطر ضرور ہی - مین نے بہتیري باتین بنائین لیکن کچھہ کام نہ آئین - وہ چپکي بت کي طرح بیٹھي رہي - تب مین نے آگے بڑھکر ہاتھہ پاون پر چلایا - جب پاون کو چھیڑا تو سخت معلوم ہوا آخر یہہ دریافت کیا کہ پتھر

2. दमयती, विजय, आली, असती, कलिला, केली या पदांचा दोन अर्थ सांगा.

3. तोष, हर्ष, गुड, सर्प, सदेश, आम्ल हीं सस्कृतपदें मराटींत कसें विकृत होतीं?

IV. खालीं लिहिलेल्या वाक्यांचा अर्थ विशदपणें लिहून 1, 2, 3, 5, 8 वाक्यें कोणांनी कोणांस सांगीतलीं तें सांगा.

1 त्वत्प्रिय ते मत्प्रिय भवदाहित तेचि मदहित रे ॥

2. केव्हां तरि वारिराशि आटल ।
ग्रहगण गळेल हिमगिरिराज खचेल क्षितीहि फाटेल॥

3. प्राणाहुनि रक्षिति सत्प्रतापति ज्ञाते ।
शंका धरिशि वृथा कां त्यजतील कशी वृता प्रतिज्ञा ते॥

4. ग्रीष्माल्पसरीं सोडुनि गेलें जैसें नदीनदा यांद ॥

5. हो वृष्टि तपोऽभ्राची बहुहृत्क्षेत्रीं पिकोत नयशाली॥

6. न पिपीलिकसेनेसहि सुसितेचाही तसा सुरस भेला॥

7. पढवी जो चापश्रुति रामासि तयावरि स्वधनु चढवी॥

8. अचल करींच असावा व्यवहारीं शब्द संगरीं सदसी॥

V. अनुपम अनुरूप अनघ जरि वरिला त्वां नृपात्मजे न नल।
होइल केवल तापद कीं जो नर नल न होय तो अनल॥

ह्या आर्येतील श्लेषार्थ स्पष्टकरून लिहा.

VI. वनपर्वांत तुम्ही पढलेल्या पांडावाचा चरित्रावरून काय नीति कळत आहे?

VII. 1. शुंग, कण्व, शालीवाहन, बृहत्कथा, सप्तदशी, मूक, इंद्रकील, मैत्रेय, शूर्पारक, कात्यायन, ब्रह्मावर्त, दक्षिणापथ. हीं कोणाचीं नावें हें सांगा.

2 गौतमीपुत्र, पतंजलि, अशोक, पाणिनि, वराहमिहिर व कालिदास ह्यांचा काल सांगा.

VIII आंध्रभृत्य ऊर्फ शातवाहन ह्यांची सत्तेखाली महाराष्ट्र देश असतां त्याची धर्मसंबंधी, सामाजिक, आणि व्यावहारिकस्थिति ह्या विषयीं तुम्हांसकळलेला वृत्तांत संग्रहानें एक पृष्ठांत लिहा.

X नमानि क्षमस्व म्हणतां प्रकट करुनि रूप बाहुनी कवळी ॥
आम्ही निजतेजोमद याचिपुढें सर्व आजि हारविला ॥
बैसे तिघां जणां सह हरिहि अधिष्ठूनि त्या सदा नलसा ॥
खाली रेखांकितझालेल्या पदांचे शब्दलक्षण सांगा.

TUESDAY, 16TH DECEMBER, 2 TO 5 P M

MARATHI TRANSLATION AND COMPOSITION

I Translate into Marathi —[See Urdu Translation paper, page xxxiii]

II Translate into English —

1 हिंदुस्थानांत प्रथम बाहेरून येऊन स्थायिक होऊन राहिलेले आर्यलोक जसजसें पुढेंपुढें त्यादेशांत नवीनप्रदेश जिंकून आपलीसत्ता वाढवीत जाऊंलागले तसतसें नवीन नवीन परकीय जातीच्या लोकांशी त्यांचें संघट्टन होऊंलागलें; हे परकीय जातीचे लोक कालांतरानें आर्यांत मिळूनगेले आणि त्यांची भाषांहि शिकले; परंतु आपल्या मूळभाषेंतील काहीं शब्द व वर्णोच्चारविशेष मात्र त्यांनी त्यागिले नाहीत, त्यामुळें ते शब्द व वर्णोच्चारविशेष तसेच राहिले.

2 परंतु ईश्वरानें काय निर्मिलें आहेत पहा. गुलाबाच्या झाडांचें कांडें, त्याची पानें, कळ्या व फुलें या परस्परांमध्यें; तसेंच पक्ष्यांची डोकी, शरीरें, पंख, पिसें आणि पाय या पर-

स्परांमध्यें; तसेंच हरणाचें डोकें, शिंगें, मान व शरीर, व दुसरे अवयव यांमध्यें; आणि विशेषेंकरून मनुष्यदेहांचें महत्त्व, आकार आणि अवयव या परस्परांमध्यें काय सुंदर यथायोग्य परिमाण आहें बरें! आणि जिजवर आपण राहतों ती पृथ्वी आणि ज्या भोंवती ती फिरती तो सूर्य, तसाच चंद्र, व तारागण, आणि ज्योतिःशास्त्रावरून तुलायांपक्षां ही जे उत्कृष्ट दिसतील या सर्वांचा आकार, महत्त्व, गुरुत्व, अंतर व आकर्षणशक्ति यांचीं यथायोग्य परिमाणेंवरूनही तुला फार आश्चर्य वाटेल.

3 व्याघ्र व्याळ क्रूर क्रूरतर क्रोध बोधरोधक हा ।
क्रोधवशांशि विलोकुनि बहु म्हणति स्वहिततत्त्वशोधक हा ॥
वरिली सुयोधनें ती म्यां ही भावुकपद क्षमा तींत ।
नर जे हिला नसेविति दवडिति हित त अदक्ष मातींत ॥२॥
त्यजुनि तिला बहु तरतो एक हि न हिला त्यजुनि तरला गे।
कृष्णे क्षमासुधारस रसिकां रस गोड कां इतर लागे ॥३॥
श्रुतिहित करिती हरिती सर्वव्यसन क्षमाभवानी हो ।
आराधवी आम्हीं खलमहिषापद्दतवैभवानीं हो ॥४॥
शक्र म्हणे बा साधो करिता तूं एक शुद्धतप शुकसा ।
तूंचि नर इतर वानर इंद्रियविषयैकनिष्ठ न पशु कसा ॥५॥
दिव्य विषयार्णवीं तूं बोधनलस्पृष्ट साधु पर्वत रे ।
छाया ग्रहासि कपिसा या विषया विरल जन न सर्व तरे ॥६ ॥

III Write an essay in Marathi on "*Indian Fruit-trees*" or on "*Volcanoes*"

"हिंदुस्थानाचे फलवृक्ष" अथवा "अग्निपर्वत" ह्याविषयी एक निबंध मराठीत लिहा.

Tuesday, 16th December, 10 a.m. to 1 p.m.

TAMIL: TEXT-BOOK AND GRAMMAR.

I. 1. நளவெண்பாச் செய்தவர் யார்? அவருடைய காலம் எது? அவர் பிறந்த இடம் எது! குலம் எது! அவர் வேறென்ன நூல் செய்திருக்கிறார்?

2. முதுமொழி வெண்பாவுக்கு அந்தப்பெயர் எதனால் வந்தது! அதைச் செய்தவர் யார்? அவரால் செய்யப்பட்ட வேறு மூன்று நூல்களோத் தெரிவிக்க.

3. வில்லிபுத்தூராழ்வாயும் கம்பரையும் ஆதரித்த பிரபுக்களின் பெயர்களென்ன?

II. 1. அடியில் வரும் பாட்டிற்குப் பதவுரை யெழுதுக:—

உருளுடை நேமியா லுலகை யோம்பிய
பொருளுடை மன்னவன புதல்வ போகிலர்
இருளுடை வைகலை மிரவி தோன்றினுய்
அருளுடை வீரநின் னபயம் யாமென்றூர்.

2. இப்பாட்டு யாரால் எச்சமயத்தில் யாருக்குச்சொல்லப்பட்டது?

3. மேற்பாட்டிலுள்ள போக்கு, புதல்வ, வைகலெம்; என்பனவற்றிற் இலக்கணங் கூறுக.

III. 1. அடியில் வரும் பாட்டிற்குப் பொழிப்புரை யெழுதுக:—

நினைக்கவுந் தொழவு மெட்டா நீயெழுந் தருளப்பெற்றுந்
தனக்கிது தகுதியென்று தமருடன் வாழவெண்ணுன்
மனக்கடுங் கனலினுன்றன் மனத்தினு லுணர்த்தபுன்சொல்
எனகனிசையாமல் யானு மிருஞ்சிலே யிறுத்தென்றூன்.

2. இப்பாட்டு யாரால் எச்சமயத்தில் யாருக்குச் சொல்லப்பட்டது? (3) இப்பாட்டிலுள்ள உம்மைகளுக்குப்பொருள்கூறுக. (4) மனத்தினுல் என்பதில் ஆல் உருபு எந்தப் பொருளில் வந்தது? (5) தமர் - யார்?

IV. (1) அடியில்வரும் பாட்டிற்குக்கருத்துரையெழுதுக:—

செவ்வேளைப் பாலனென வெள்ளித்திறலழிந்தான்
றுவ்வாத வெஞ்சூரன் சோமேசா-வவ்வா
றுருவுகண் டெள்ளாமை வேண்டு முருள்பெருந்தேர்க்
கச்சாணி யன்ன ருடைத்து. (2) இப்பாட்டிலுள்ள குறள் எவ்வதிகாரத்துக்குரியது? (3) இப்பாட்டிற் குறிக்கப்பட்ட கதையைச் சுருக்கி யெழுதுக. (4) துவ்வாத-என்பதற்குப் பதபதவிலகணங் கூறுக. (5) அவ்வாறு-இப்புணர்ச்சிக்கு நன்னூற்சூத்திரத்தை யெழுதுக. (6) வேண்டும், உடைத்து; இவற்றிற் இலக்கணங் கூறுக. (7) "உருள் பெருந்தேர்க் கச்சாணி யன்ன ருடைத்து"-உடைத்து என்பதற்கு எழுவாய் எது?

V. 1. அடியில் வரும் பாட்டை வசனக்கிரமமாக எழுதுக:
மாயிரு ஞாலத் துயிர்காண வானரங்கிற்
பாயிரு ளென்னும படாம்வாங்கிச்-சேய்நின்
றறைந்தா ரணம்பாட வாடிப்போய் வெய்யோன்
மறைந்தான குடபால் வரை.

2. வெய்யோன்-இதற்குப் பகுதி யெது?

3. குடபால் வரை-இதில் வரை எனன வேற்றுமை?

VI. அடியில் வருவனவற்றிற்குத் தெளிவாய் அர்த்த மெழு

1. இயமரநின்றூர்ப்ப வினவலா நின்றேங்க. [துக:—

2. அடுக்கி வரினு மழிவிலா னுற்ற
விடுக்க ணிடுக்கட் படும்.

3. அன்பாலின் றென்னே யறிந்தே பிணித்தமை நன்
றென்பாதந் தன்னே யினிவிடுக வென்றுரைப்ப.

4. வெப்பழியா தென்னெஞ்சு முலந்தேன் விளிகின்
ஒப்பழி வென்றே போர்செய வொல்லேன.'[றேன்

VII. 1. வழக்கிலக்கணத்தைக் குறிக்கும் நன்னூற் சூத்திரத்தை யெழுதுக.

2. ஈனு-என்னும் பகுதியடியாகப் பிறந்த எல்லா எச்சங்களையு மெழுதி அதனதன் காலத்தைக்குறிக்க.

3. சோமேசர், மகோததி, சிலேஷோத்தி, நாேந்திரன்; - இவை யென்ன சந்தி?

VIII. (1) ஹாம்லெத்தின் கதையைச் சுருக்கி ஒருபக்கத்துக் கதிசப்படாம லெழுதுக. (2) கலாதி, பொலோனியூ, ஒபீலியா, ஜூலியத்;—இவர்கள் யார்? (3) தாை, கதிமுகன்; இவர்களை யார்?

IX. (1) ஸரஸம், உபசாரம், இளநெஞ்சு, தண்கோலன், உற்றது, நிமலன்; இவற்றில் ஒவ்வொனறற்கும் எதிர்மொழியைத் தெரிவிக்க. (2) திரை, திறை; மனை, மறை; புரம், புறம்; செத்து, செற்று;-இவ்விரண்டிரண்டு சொற்களுக்குள்ள பேதத்தைத்தெரிவிக்க.

X. (1) அடியில் வருவனவற்றின் அர்த்தத்தைத்தெரிவிக்க: ஓலம், வதுவை, வள்ளல், அபௌருஷேயம், மறத்தை வீட்டி, ஈமகடன, திரிவிக்கிரமன், ஏகூடம், ஊதை, பொருதை. (2) பஞ்சேந்திரியங்கள், ஐம்பெரும் பூதங்கள், சதுர்விதி உபாயம:-இவை எவை? (3) தக்குப்பாலகர்கள் யாவர்?

TUESDAY, 16TH DECEMBER, 2 TO 5 P.M.

TAMIL: TRANSLATION AND COMPOSITION.

I. Translate into Tamil:—[See Urdu Translation paper, page xxxiii.]

II. Translate into English:—

1. அற்றவன பகராமுன்ன மதகளே யழகியாளும்
கொற்றவன் மைந்தமற்றைக் குழைவுடையுழையை வல்லே
பற்றினே தருதியாயிற் பதியிடை யவதியெய்தப்
பெற்றுழி யினிதுண்டாடப்பெறற்கருந் தகைமைத் தென்றாள்.

2. அஞ்சின மஞ்சின மென்று விளைந்துய ரண்டர் பணிந்திடவுந்
துஞ்சின மின்றென வன்பலி யினகினே துன்ப முழந்திடவும
வஞ்ச மனங்கொடு வஞ்சக னின்றிடு வஞ்சனே நன்றிதனை
நெஞ்சில் வெகுண்டுல கொன்று படும்படி நின்று நிமிர்ந்தனனே.

3. ஒல்லுங கருமம் முடற்றுபவர் கேண்மை
சொல்லாடார் சோர விடல்.

4. செவ்வாய வனறி றுணையிழப்பச் சென்றடைந்தான்
வெவ்வாய் விரிகதிரோன் வெற்பு.

5. அதுகேட்டு அங்கதன் முதலிய வானர வீரர்களே அதுமான் நோக்கிக் கைகூப்பி, அவ்வானரத் தலைவர்களுக்குப் பெருமகிழ்ச்சி யுண்டாகும்படி, இலங்கையை வேரோடு கல்லி அங்கே கொண்டுவாவெனறுலும் விலங்கையொத்த அரக்களையெல்லாம் கொலபுரிந்து எமபெருமாட்டியை யெடுத்து இங்குவாவெனறுலும் வருவேன்; நீங்களே பிராட்டியைக் கொண்டுவரத்தக்க வலியுடையீர்; என்னுடைய வலியிணமையை வெளிப்படுத்துமபடி எனனே ஏவினீர்களாயின், என்னைப்போன்ற நற்பிறப்பினர் யாவருளர்! உலகங்களே முழுத்தும்படி கடல்கள் வந்தெதிர்ப்பினும் இவ்வண்டம் உயர்ந்தாலும் உங்களுடைய கட்டளையும் எம் பெருமானுடைய ஏவலும் நீண்ட சிறைகளாகக்கொண்டு பறவை வேந்தனைப்போல இக்கடலைத் தாவுவேன் எனறான.

6. அந்த வாக்கானது பல கெடுதிகளால் புண்பட்டிருந்த ஹாம்லெத்தினது மனநோவை ஆற்றும் அமுத வாக்காகப் பலித்தது.

7. அம்மரத்தின் ஒரு கிளே அவன உடற்பாரந் தாங்காமல் வணங்கிச் சடிதியில் ஒடிந்தது.

8. கைப்பொருள காணக் கண்ணுடி வேண்டுமோ?

9. அவன் மனோராச்சியம் பண்ணுகிறான.

III. Write an essay in Tamil on "*Indian Fruit-trees*" or on "*Volcanoes.*" இந்தியாதேசத்துப் பழந்தரு மரங்களேப்பற்றி, அல்லது எரிமலைகளேபபற்றித் தமிழில் ஒரு வியாசம் எழுதுக.

TUESDAY, 16TH DECEMBER, 10 A.M. TO 1 P.M.
TELUGU: TEXT-BOOK AND GRAMMAR.

I. ఈ క్రిందివానిలో మొదటిరెండుపద్యములకు దండాన్వయమును, మూఁడవ పద్యమునకుఁ బ్రతిపదార్థమును వ్రాయుఁడు:—

1. ఘుమఘుమా తౌక్కరనిర్ఘోషభీషణఘనస్తోమనంచాదితవ్యోమతలము
నంవర్తమృత్యుదంష్ట్రార్చిద్యుతిప్రతిమానశంపాపరంపరాసంవృతంబు
కులసానుమద్దుహాకులమహాధ్వని హేతుపటుదీర్ఘ నిర్ఘాతపాతపటల
మాశామదావళీహస్తనీకాశవాఃపూరధారాసి క్తభూతలంబు
తీవ్రతిమిరచ్ఛటాశక్తదిక్తటంబు పృథులవర్షోపలానీకభీకరంబు
ఘనతరాళీలదుర్దమకర్దమంబు గురిసె వర్షంబు భరఁ గుండఁగ ల్చినట్లు.

2. చారుబలాకమాలికలచాడ్పున దంతము లొప్ప గర్జిత
స్ఫారరవంబు లట్లుగ నభం బడర న్బటుబృంహితంబు లా
సారముమాడ్కి దానజలసంతతి గ్రమ్మఁగఁ గాలమేఘమా
లారుచిరంబు లై మదజలద్విపసంఘము లొప్ప నప్పురిన్

3. భాస్కరభవామయతిరస్కర నమజ్జనయశస్కర నహస్కర మస్కరధరశ్రే । యస్కర నభోమణి యహస్కర చరచ్చరదుపస్కర నదారురుణపురస్కర నదేకా । పస్కర తమఃపటలతస్కర కిరీటగశిరస్కర గృహీతనుమనస్కర నహారో। రస్కర జనీపవయస్కర రవి సర్వజగదాస్కర భజే యని నమస్కరణుఁ డైనన్.

(a) కులసానుమంతములు, ఆశామదావళీములు—ఎన్ని? వాని పేరు లేవి?

(b) మూఁడవపద్య మేవృత్తము? దానిలక్షణమేమి?

II. 1. నిర్వచనోత్తరరామాయణగ్రంథకర్తచరిత్రమును సంక్షేపముగా వ్రాసి, అతఁడు రచియించినయితరగ్రంథములను దెలుపుఁడు.

2. ఉత్తరరామాయణమును నిర్వచననియమము లేక రచియించినవా రెవ్వరు?

3. హరిశ్చంద్రోపాఖ్యానము ద్విపదకావ్యముగా నేకవి రచించె?

III. 1. దైవతికోటులనైనఁ బట్టి యూభీలగతి న్వధించు నని పేర్కొన మర్త్యులనేమి చెప్ప—ఇక్కడ 'చెప్ప' ననునది యేయర్థమునఁ బ్రయోగింపఁబడినది? సాధారణముగా నేయర్థముల నుపయోగింపఁబడును?

2. ఆచటు దక్కఁగ నీకు నన్యప్రదేశ మిరవు గాదు—ఆచటునకు రూపాంతరము లేవి ? ఇట్టిరూపములు మఱియేశబ్దములకును గలవు ?

3. ఆరవిందజుఁడైనను—ఇక్కడ విభక్తికి ముందు ఏమి యాగమము రావలసినది ? ఆయాగమ మెక్కడెక్కడ కూడ వచ్చును ?

4. ఇంద్రజి ననిలోఁ జంపి—ఇంద్రజికి రూపాంతరములేవి ?

5. ఆ మెమనసు చివుక్కుమన—ఇక్కడ ననుకరణము పరమగున ప్పుడేవర్ణ మాగమముగా వచ్చినది ?

IV. ఈక్రిందివానికర్థవివరణము (దండాన్వయముకాదు) చేయుఁడు:—

1. నిజభుజాదండమహోగ్రమండలాగ్రప్రభాపటలవిరళీకృతదుర్గసుమార్గాంధకారుఁడు.

2. లోకాలోకతటీవిహారకలనాలోలద్యశస్సింహుఁడు.

3. నీతిమంతుండయ్యు ననీతిమంతుండును, లీలామానుషవిగ్రహుండయ్యు నలీలామానుషవిగ్రహుండును, పుణ్యజనదమనుండయ్యు నపుణ్యజనదమనుండును, సురగణనాథసేవ్యుండయ్యు నసురగణనాథసేవ్యుండును, ఆయి ప్రజాపరిపాలనంబు సేయం దొడంగె.

V. 1. ఈక్రిందిపదములకుఁ బ్రకృతులను దెలుపుఁడు—మంతనము, ఆనతి, కయిక, పక్కము, మోనల, చిన్నె, వదిసె, సెక.

2. ఈదిగువపదములకు వికృతులను వ్రాయుఁడు :—నిశ్రేణి, గోష్మము, భుజము, శృంగారము, సాక్షి, అటవి, పటువు, విద్య

3. ఈక్రిందిశబ్దములకర్థములు చెప్పుఁడు—త్రిపుండ్రకము, తిక్తము, తీరువుకాఁడు, విస్ఫులింగములు, సాలభంజిక, నిదాఘము, ఆడియాస, చిచ్చరకంటి.

4. ఈదిగువశబ్దములకు వ్యుత్పత్త్యర్థములను జెప్పుఁడు :—వసుంధరాధరము, షట్పదము, తన్వంగి, శూర్పణఖ, శత్రుఘ్నుఁడు, సప్తతురగుఁడు, వలీముఖము, పుత్రుఁడు.

5. ఈ రేడుభువనములు, అక్షౌహిణి—వీనిని వివరింపుఁడు

VI. మానినికిని మాలినికిని గలభేదమును వివరించి, ఈరెండువృత్తములకు మీరు చదివినగ్రంథములనుండి రెండుపాదములను వ్రాయుఁడు.

VII. 1. వంటింటిలోఁ గుందేల్చొచ్చినచందమయ్యె, చిచ్చెఱయం

జేటఁ గ్రమ్మ నగునా, విత్తొకటివేసినఁ జెట్టొకటి మొలచునా—ఈ సామెత లేసంబంధమున నెవ్వరిచేఁ జెప్పఁబడినవి ?

2. అవశ్యంపితురాచారమ్, యథారాజా తథాప్రజా, వినాశకాలే విపరీతబుద్ధిః, స్త్రీబుద్ధిః ప్రళయంకరీ.—ఈ సంస్కృత లోకోక్తులు కుళలవులచరిత్రమునం దేసందర్భమునఁ బ్రయోగింపఁబడినవి ?

VIII. 1. అరుంధతి, లోపాముద్ర, అనసూయ.—ఈ పతివ్రతలచరిత్రను గొంచెము చెప్పి, వారి భర్తలనామములను బేర్కొనుఁడు.

2. "ముష్కరులగుఖరదూషణాదులఁ దునుమాడి మాయామృగంబై వచ్చినమాయలమారి మారీచుం దిత్తులిచి"—ఇందలికథను సంగ్రహముగా వ్రాయుఁడు.

3. మర్త్యంబున మానవుండ వై జన్మించి భార్యావిరహంబునఁ బరితపింతువుగాక—ఇట్లెవ్వరి నేకారణముచేత నెవ్వరు శపించిరి ?

4. ఆశ్వమేధమున కెటువంటిగుఱ్ఱము కావలయునని మీపుస్తకమున వర్ణింపఁబడినది ?

IX. 1. అడుగుఁదమ్ములు, దండకమండలువులు, గతజలసేతుబంధనము,—ఇవి యే సమాసములో వ్రాసి విగ్రహము చెలుపుఁడు.

2. నీదు ప్రాణవాయువులు గ్రోలునాదుకా శ్లేయకాహి, చంద్రమతిశిఖిఁ దఱిసి.....చరమసంధ్యారాగంబులోఁ బలఁ దరుణతుహినమయూఖరేఖయుంబోలె నిలిచె—ఇందలి యలంకారము లేవి ?

3. వసివాళ్లు, క్రొక్కారు, ఆనతియ్యవలదు,—ఇందలి సంధికార్యములను విపరింపుఁడు.

4. నాచేయు కపటకృత్యములు, అతఁడు నగి కడ్పిపుచ్చిన, గుండెలు తటక్కొట్టుకొడ, కాపెట్టుకొని,—ఈపదములలో క్రింద గీఁతలుండు చోట్ల రూపములెట్లు పేర్వడ్డవి ?

Tuesday, 16th December, 2 to 5 p.m.

TELUGU: TRANSLATION AND COMPOSITION.

I. Translate into Telugu:— [See Urdu Translation paper, page xxxiii.]

II. Translate into English:—

1. సారెకుఁ గూయఁ జొచ్చెఁ బరుషధ్వనిఁ గుక్కుటరాజి మౌక్తిక
శ్రీరుచి వేగుఁజుక్కపొడిచెం దలచూపె ననూరురేఖ కా
సారతరంగిణీవిటపిసంతతిఁ బర్వె శకుంతనాదము
ల్దూరము లయ్యెఁ జీఁకటులు తూరుపు దెల్వి వహించె వేకువన్.

2. అమరనగంబు నెచ్చెలులొ హైమవతీశుననుంగుఁగొండవి
య్యములొకొరోహిణాచలమునన్నలుఁదమ్ములు నెకొక్కనాసువ
ర్ణమునను జారుతారమున రత్నమయంబునఁ దేజరిల్లు నం
దు మహిమ కున్కి పట్టగుచుఁ దుంగసముజ్జ్వలదేవసద్మముల్.

3. అంత లక్ష్మణుండు నడగొండలవడువున దండి మిగులువేదండ కాండంబులును, నడవడిం గరుడానిలుల మెచ్చనితత్తడులును, శరద్ఘనంబు లన ఘనమార్గసంసర్గంబునం దుఱంగలించుశతాంగంబులును, సింహకిశోరంబులకరణి నరిభటకరటిపాటనపటువు లగువీరభటులునుం, గల మూడక్షౌహిణులబలంబు తనకుఁ దోడుగాఁ గొని యన్నకు సన్నతి చేసి మిన్నంటినకరళ్లచప్పుళ్లతోఁ జెల్లెలికట్ట దాఁటి వచ్చుమున్నీటికిం బాటియై శీఘ్రయానంబున ననుగమించుసేనలుం దానును గదలి గంగ దరికి నరిగి యాచేరువ వామలూరుభవునాశ్రమంబున కనతిదూరంబు నం గనుపట్టుసమరాంగణంబుఁ జొచ్చె.

4. విశేషమయినయెండ, అధికమైన యుష్ణమును, కొద్దిపాటి వానయుఁ, గలభూములయందు సముద్రమునందలి పైనీరు ఎక్కువ యుప్పగానుండును. నదీజలముగాని యితరములుగాని కలయనిచోట సముద్రపునీరు కొంచె మెక్కువ యుప్పగానుండును. కాఁబట్టి ఉత్తరసముద్రపునీరు అక్కడక్కడ కొంచెము భేదపడి యుండును. ఈ నిమిత్తము చేతనే మహాసముద్రపు జలమును భేదపడును. బాల్టిక్కు సముద్రములో అనేకనదులు కలయుటవలనను, వర్షజలముచేతను, పేరినమంచు కరఁగుటవలనను, అక్కడినీరు నల్లగా నుండును. సముద్రముయొక్క పైభాగమున నుండుచప్పనినీళ్లు వెలుపలికి పాఱునపుడు క్రిందినుండి ఉప్పునీరు ఉబికి పైభాగము ఉప్పగుచున్నది.

5. (a) నూవులు నూనెయు నొకటి గానిగవాఁడే వేఱు (b) నిండుచూలాలవు, నీవెక్కడ గంగాతీరంబెక్కడ (c) చెడఁ దలఁచుకట్టిడులకు హితంబులు హితంబులుగావు.

III. Write an essay in Telugu on "*Indian Fruit-trees*," or on "*Volcanoes.*" "ఇండియా దేశ ముల్లోని పండ్లచెట్లను" గుఱించిగాని లేక "అగ్ని పర్వతములను" గుఱించిగాని తెలుగుభాషలో ఒక వ్యాసము వ్రాయుడు

TUESDAY, 16TH DECEMBER, 10 A.M. TO 1 P.M.

KANARESE: TEXT-BOOK AND GRAMMAR.

I. ಕೆಳಗಣ ಪದ್ಯಗಳ ಅರ್ಥವನ್ನು ಸ್ವಲ್ಪವೂ ಬಿಡದೆ ಬರೆಯಿರಿ (ಪ್ರತಿಪದಾರ್ಥ ಕೊಡದು):—

(1) ಅಳವ ಪೊಡಲುಗಳವನಿಸಾಗರ । ವುಳಯೆಲುಳವುದು ಕೀರ್ತಿ ಸೋದರ।ರೊಳಗೊಳಗೆ ಕಡಿದಾಡಿ ಬದುಕಿದರೆಂಬ ದುರ್ಯಶದ ॥ ಹ್ಳಳವು ಹೊರುವುದು ದೇವ ಸುಡಲೀ । ನೆಲನನಾ ಕೌರವನ ಕೈಯೆಲಿ । ಹಲವು ನಗರಂಗಳನು ಕೊಡಿಸಿಯೆ ಸಂತವಿಡಿ ಯೆಂದ । (2) ಮಣಿದಪರಾರ್ಜಿಸಲ್ಕಳಿಯೊಳ್ನುತಿಯೆಂ ನಲವಿಂದಮನ್ಯರಾ । ಗುಣವ ಪೊಗಳ್ವರಾತ್ಮ ಗುಣಮಂ ಪ್ರಕಟೀಕರಿಸಲ್ಪರಾರ್ಥಮಂ ॥ ಪ್ರಣಯದೆ ಮಾಡವರ್ಗಳಪುದಕ್ಕೆ ನಿಜಾರ್ಥವ ಶಾಂತಿಯಿಂದೆ ದೂ । ಷಣಪರ ದುಷ್ಟರಂ ಮರುಗಿಪರ್ ಗಡ ಚಿತ್ರ ಚರಿತ್ರರುತ್ತಮರ್. ॥

II. "ವಾನಪ್ರಸ್ಥಾಶ್ರಮ" — ಮಿಕ್ಕ ಮೂರಾಶ್ರಮಗಳ್ಯಾವವು ? "ತ್ರಿನೇತ್ರನು"—ಇದು ಯಾರ ಹೆಸರು ? ತ್ರಿನೇತ್ರಗಳ ಹೆಸರೇನು ? "ಷಟ್ಕರ್ಮ ನಿರತರಾದ ಮುನಿಗಳು".—ಷಟ್ಕರ್ಮಗಳ್ಯಾವವು ? "ಬಲ್ಲಿದನ ವರ್ತನಂ ತಾಂ ಸೊಲಿಸಲೆರಡಂಗಮತ್ತೆ" — ಎರಡಂಗಗಳ್ಯಾವವು ? "ಚತುರಂಗ ಸೈನ್ಯ"—ಯಾವುದು ?

III. 1. ಕೆಳಗೆ ಕಾಣಿಸಿರುವವುಗಳ ತಾತ್ಪರ್ಯವನ್ನು ಸರಿಯೊಗಿ ತೋರಿಸುವ ಹಾಗೆ ಅವುಗಳ ಅರ್ಥವನ್ನು ವಿವರಿಸಿ : — (*a*) ಬಾಲವನಾಡಿಸಿ ನೀಡುತೆ । ಕಾಲಂ ಕೂಳೀವಗೊಡಲ ತೋರ್ಪುದು ಕುನಕಂ । ಆಲಿಸಿ ಚಾಟೂಕ್ತಿಗಳಂ । ಲೀಲೆಯೊಳೀಕ್ಷಿಸುತೆ ಭೋಜಕುಂ ಗಜರಾಜಂ.॥ (*b*) ಹುತವಹನಂಪಿದೊಡಿವನಾ । ಹುತಿ ಯೀವವನೆಂದು ಸುಡದೆ ಪೇಳ್ದೀಕ್ಷಿತನಂ ॥ (*c*) ————————ಕೂಪದೊಳ್ । ಕರಗವೆನಿತ್ತು ನೀರನೊಳಕೊಂಬುದನಿತ್ತನಿ ವಾರ್ಧಿಯೆಲ್ಲಿಯುಂ. (*d*) ದಿವ್ಯ ಹರಿಯುಂ ಮರತು ಪ್ರಾಕೃತ ಹರಿಯನರಸುವಿ.

2. ಕೆಗಳಣ ಮಾತುಗಳ ಅರ್ಥವೇನು ? (*a*) ವ್ರಣದೊಳು ಕ್ಷಾರ ವಿಟ್ಟಂತೆ. (*b*) ದೈವನ್ಯಸ್ತಭರನಾದನು. (*c*) ನೈಸರ್ಗಿಕ ವೈರ. (*d*) ಈ ಪರಿವರ್ತನ ಸಂಸಾರ - (*e*) ಆಜಾನಪಾವನಶ್ರೀರಳು (*f*) ಬ್ರಹ್ಮಸ್ವ.

IV. 1. (*a*) ಬಾಣಸಿಗಂಗೆ ಭೋಜನದ ಬಯಕೆ ತಕ್ಕುದಲ್ಲದೆ ರಾಜ ಕಾರ್ಯ ಕ್ಕೌಶಲ್ಯವೆತ್ತಣದು - (*b*) ನೀನಂದು ಗಾಂಡೀವಮೆನಗಿತ್ತೆ - (*c*) ಬಂದುದಂದಿನ ಜಯದ್ರಥನ ಕಥೆ - (*d*) ನೆನವುದೆಂದನು ಪಾರ್ಥನಾಕಾನನದೊಳಗೆ ಗಂಧರ್ವರಲಿ ಬಂಧನವನ್. (*e*) ಭೀಮ ಮರೆದೈ ಮಾನಿನಿಯ ಘನಮಾನಹಾನಿಗಳಾ. (*a*) ನ್ನು ಯಾರನ್ನು ಉದ್ದೇಶಿಸಿ ಹೇಳಿದ್ದು ? ಬಾಣಸಿಗನೆಂದದ್ದಕ್ಕೆ ಕಾರಣವೇನು ? (*b*) ನ್ನು ಯಾರು ಯಾರಿಗೆ ಹೇಳಿದ್ದು ? "ಅಂದು" ಅಂದರೆ ಯಾವಾಗ ? (*c*) ಜಯದ್ರಥನ ಕಥೆ ಯಾಳುದು ? ಸಂಕ್ಷೇಪವಾಗಿ ಹೇಳಿ - (*d*) ಮತ್ತು (*e*) ಇವುಗಳಿಂದ ಸೂಚಿಸಲ್ಪಟ್ಟ ಪೂರ್ವಕಥೆಗಳನ್ನು ಸಂಕ್ಷೇಪವಾಗಿ ಬರೆಯಿರಿ.

2. ನರಕಮರ್ದನ, ಕೃತಾಂತಜವೈರಿ, ಗಾಂಗೇಯ, ಇಂದುಮೌಳಿ, ಹಲಧರ, ಧನದ - ಇವು ಯಾರ ಹೆಸರುಗಳು ? ಈ ಪದಗಳ ಅವಯವಾರ್ಥವನ್ನು ಬರೆಯಿರಿ.

V. (1) ತರಣಿ, ತರುಣಿ ; ಮರುಳ, ಮರಳು ; ಒರಲು, ಒರಳು ; ಯಾಜಕ, ಯಾಜಕ ; ಪೊರಮಡು, ಪೊಡಮಡು ; ಕೃತು, ಕೃತಿ ; ಇವುಗಳ ಅರ್ಥ ಭೇದವನ್ನು ತಿಳಿಸಿರಿ. (2) ಆತಪತ್ರ, ಹುತಾಶನ, ತನುತ್ರ, ದ್ವಿಪ, ಮತಂಗಜ, ಸುರಧುನಿ, ತ್ರಿಪಥಗಾ, ಮೈನಾಕ, ಈ ಶಬ್ದಗಳಿಗೆ ಅವಯವಾರ್ಥ ಸಮೇತ ಅರ್ಥ ಹೇಳಿ.

VI. (1) ಸಂವರ್ತನು ಯಾರು ? ಅವನನ್ನು ಕಂಡು ಹಿಡಿಯುವದಕ್ಕೆ ನಾರದನು ಮರುತ್ತುರಾಯನಿಗೆ ಹೇಳಿಕೊಟ್ಟ ಉಪಾಯವ್ಯಾವದು ? (2) ಜ್ಯಾಮೆಯು ಅರ್ಜುನನ ಮೇಲಣ ಹಗೆಯನ್ನು ತೀರಿಸುವದಕ್ಕೆ ಯೇನು ಉಪಾಯ ಮಾಡಿದಳು ? (3) "ಕಷ್ಟದೋಳ್ ನಿಖಿಲರುಂ ನಿಜಕರ್ತ್ಯನು ರೂಪಕಾಂಕ್ಷಿಗಳ್" ಎಂಬದು ಯಾವ ದೃಷ್ಟಾಂತಗಳಿಂದ ವಿಶದ ಪಡಿಸಿದೆ ?

VII. (1) ತಿರೆ, ಬಿನ್ನವತ್ತಳೆ, ಭವಣೆಗೊಳ್ಳು, ಜೊನ್ನ, ಜೆನಕ, ಕಾವರಾಯ, ಸೋದರ, ಸಗ್ಗ, ಉಜ್ಜುಗ, ಇವುಗಳು ಹುಟ್ಟಿದ ತತ್ಸಮ ಪದಗಳನ್ನೂ, (2) ಕಾಪ್ಪ, ಕಟಾಹ, ಕುಠಾರ, ಕಟಕ, ನಿದ್ರಾ, ಐಶ್ವರ್ಯ, ಸಹಜ, ಪ್ರಾಣ, ಕಾರ್ಯ, ಇವುಗಳಿಂದ ಹುಟ್ಟಿದ ತದ್ಭವ ಪದಗಳನ್ನೂ, (3) ವೇ.

ದ, ಲೋಕ, ವಂಶ, ಕ್ಷೇತ್ರ, ಇಂದ್ರ, ಗರುಡ, ಇವುಗಳಿಂದ ಹುಟ್ಟಿದ ವಿಶೇಷಣಗಳನ್ನೂ ಬರೆಯಿರಿ. (4) ಪೀರ್ಬೆಟ್ಟ, ಮಹದಾನಂದ, ವಸಂತತರ್ಪ, ಇಕ್ಕಡಿ, ಆವದ್ದಂಡ, ಕನ್ನೆ ೃದಿಲೆ, ಈ ಸಮಾಸಗಳೊಳಗಣ ಪೂರ್ವಪರಪದಗಳನ್ನು ವಿಂಗಡಿಸಿ ಬರೆಯಿರಿ. (5) ಕರ್ಮಧಾರಯ ಸಂಯುಕ್ತ ಕ್ರಿಯಾಪದ, ಅಧಿಕರಣ ಕಾರಕ, ಬಹುವ್ರೀಹಿ ಸಮಾಸ, ಇವುಗಳನ್ನು ವಿವರಿಸಿ ಉದಾಹರಣೆ ಕೊಡಿ.

VIII. ನೀವು ಓದಿದ "ಉದ್ಯೋಗಪರ್ವ"ವು ಯಾವ ವೃತ್ತದಲ್ಲಿ ಬರೆಯಲ್ಪಟ್ಟಿದೆಯೋ ಆ ವೃತ್ತದ ಲಕ್ಷಣಗಳನ್ನು ಹೇಳಿ

IX. ಈ ಕೆಳಗೆ ಬರೆದಿರುವದನ್ನು ಸುಲಭವಾದ ಹೊಸಗನ್ನಡದಲ್ಲಿ ಬರೆಯುವದು :—

ಅಹಹ! ಭಾಗವತ ಬಲಮೆಂತುಹೋ, ಮೂರನೆಯ ಬಾಣಮಂ ನರನಾಗ ಸಂಧಿಸಲ್—ಹರಿಯೆ! ನಿನ್ನ ಪುಣ್ಯಮಂ ಕೊಟ್ಟುದಾದುದೆ! ಮುಂದೆ ಮಾಡೇನು ಮಾಡುವೆಯೊ! ನಾನಿದಂ ಖಂಡಿಸದೆ ಬಿಟ್ಟೆನಾದೊಡೆ, ಕಾಶಿಯೊಳ್ ಲಿಂಗವಂ ತುಳದ ಪಾತಕಮೆನಗೆ ಬರಲೆಂದು ಘೋರ ಪ್ರತಿಜ್ಞೆಯಂ ಮಾಡಿ, ಹರಿಯೊಳ್ ಮನವನೆಲೆಗೊಳಿಸಿ, ಧೈರ್ಯದಿಂ ಸುಧನ್ವನಿರೆ; ವಿಧಿವಿಷ್ಣುರುದ್ರರಂ ಆದಿಮಧ್ಯಾಂತಂಗಳೊಳ್ ನರನು ಭಾವಿಸಲ್, ರಾಮಾವತಾರದ ಪುಣ್ಯವನಾಗ ಹರಿ ಕೊಡಲ್, ದೊಣ್ಣೆಯನಿತ್ತುರು ಮಾಂತ್ರಶಕ್ತಿಯಿಂ ತೀವಿ ಬಿಡೆ, ಬಂದುದದು ಗಗನದೊಳ್ ವಿಷ್ಣುಚಕ್ರದ ತೆರದಿ, ಕತ್ತರಿಸಿ ಬಿಟ್ಟನದನುಂ ಸುಧನ್ವನು ಬೇಗ, ಸರಳ ಹಿಂದಣ ತುಂಡು ಬಿದ್ದುದವನಿಗೆ, ಬಳಿಕ ಕೊನೆ ಭುಗಿಲ್ ಭುಗಿಲೆನಿಪ ಉರಿಯೆನುಗುಳುತ ಬರಲ್, ಬೆಚ್ಚಿದನೆ, ಬೆದರಿದನೆ! ಮನದೊಳ್ಸುಧನ್ವಂ ಹರಿಯೆನ್ನೇ ಧ್ಯಾನಿಸುತ್ತಿರಲ್, ರುದ್ರಭಾಗವು ಬಂದು ಕೊಚ್ಚಿ ಕೆಡಹಲ್ ತಲೆಯೆ, ಹರಿಶ್ರೀಕೃಷ್ಣ ಯೆನುತಲದು ಚಿಗಿದು ನಭದೊಳ್ಬಂದು ಕೃಷ್ಣನ ಪದಾಂಬುಜದಿ ಬಿದ್ದುದು.

TUESDAY, 16TH DECEMBER, 2 TO 5 P.M.

KANARESE: TRANSLATION AND COMPOSITION.

I. Translate into Kanarese :— [See Urdu Translation paper, page xxxiii.]

II. Translate into English :—

(1) ಮಂದೆಯೆಲಿ ಪೈಮರೆದು ಬಾಹಿಳರೆಂದ ಮಾತನಂ ರಾಜಸಭೆ

ಯೆಲಿ। ತಂದು ಗಳಹುವನಿವನೆು ಶಿಷ್ಟನೆ ಜಗದ ಭಂಡನಲಾ॥ ಇಂದು ಮೌಳ
ಯನೊಂದು ಬಾರಿಗೆ। ಹಿಂದು ಮುಂದನು ಮಾಡುವೆನು ತಾ। ಮಂದಿ ಕುಂತಿ
ಯ ಮಕ್ಕಳಿದಿರೇ ಯೆಂದನಾ ಕರ್ಣಾ.॥ (2) ತರು ಕಡಿವಡೆದೊಡವೊಡ
ನಂ। ಕುರಿಪುದು ಶಶಿ ಕೃಶತೆಯಾಂತೊಡಂ ವರ್ಧಿಸುವಂ॥ ಧರೆಯೊಳಿದು
ಸಾಜವೆನ್ನು ತೆ। ಪರಿತಾಪಂದಾಳರು ತ್ತಮರ್ಕ್ಕಪ್ಪದೊಳಂ.। (3) ಕೊಡುವ
ರೇನಾದರನು ಬೇಡಲು। ಕೊಡುವರೈ ದೇಹಗಳ ಕುಯಿದೇ।ಕೊಡುವರಿದು
ಕೊಡಬಾರದೆಂಬಾ ನುಡಿಯೆ ಮೊದಲಿಲ್ಲಾ॥ ಪೊಡವಿಪಾವನರಾಗಿ ಹರುಷ
ದ।ಕಡಲೊಳಗೆ ಮುಳುಗಾಳುತೇಳುತ।ನಿಡು ನಿರಂತರವಿರುತಿಹರು ಇದು
ಸಾಧುಗುಣವೆಂದಾ.॥ (4) (a) ವಿಜಯೆಂಗಾವು ಮಾಡುವ ಸಹಾಯೆಮಂ
ನೀನು ಕಂಡು ಕಂಡು, ಬರಿದೆ ಮಕ್ಕಳಂ ಕೊಲಿಸಿ ಕೆಡಿಸಿದೆ. (b) ಭೀ
ಷ್ಮಾದಿ ಸುಭಟರೇನಾದರೋ ಕೇಳ ಬಲ್ಲೆಯಾ, ಎಂದನು (d) ಅದ
ಕ್ಕಾತನು ಮನೆದೊಳ್ ಸಂತಸಗೊಂಡು, ತಾನದಕ್ಕೆ ಒಪ್ಪದವನಂತೆ ನಟಿಸು
ತ್ತ, ಅವಳ ನಿರ್ಬಂಧಕ್ಕಾಗಿ ಹೇಳಿದಂತೆ ಮಾಡುವವನ ಹಾಗೆ ಅಭಿಪ್ರಾಯ
ವನ್ನು ತೋರಿಸುತಿದ್ದನು (c) ತಮ್ಮನ್ನಾನಂ ಕೊಂದ ಕೃಷ್ಣನೊಳು ಪೂ
ರ್ವವೈರವಂ ಸ್ಮರಿಸಿ, ಹಗೆಯಂ ತೀರಿಸಿ ಕೊಳ್ಳಲೈತಂದನು. (e) ನೀ
ನು ಬೆಂಬಿಡದೆ ಅವನನ್ನು ಹಿಡಿದರೆ, ನಿನ್ನ ಕಾರ್ಯವಾಗು ತ್ತೆ - ಆವನೇನೇಂ
ನಿನಗೆ ಭಾಧೆಗಳನ್ನುಂಟು ಮಾಡಿದರೂ, ಸಹಿಸಿ ಕೊಂಡಿರು (f) ಯೌ
ವನಾಶ್ವಂ——ಆರೆಲಾ ? ನೋಡಿದೊಡೆ ಬಾಲಕಂ - ತುರುಗಮಂ ಪಿಡಿದಿ
ರ್ಪೆ - ಎನಗೆ ಸಿಟ್ಟಂ ಗೊಳಿಸಿರ್ಪೆ - ಪ್ರಾಣಾಭಿಮಾನವಿರ್ದೊಡೆ ತುರುಗ
ಮಂ ಬಿಟ್ಟು ಪೋಗು. ಎಂದು ನುಡಿಯೆಲು, ಯಾರಾದೊಡೇನು ? ವಾ
ಜಿಯಂ ಜಡುವವನಲ್ಲ - ಶೂರನಾದೊಡೆ ಸಾಹಸವ ತೋರೆಂದು ವೃಷ
ಕೇತುವು ಸರಳಂ ಸುರಿಸೆ ; ಹುಡುಗನಾದ್ದರಿಂದ ಬಿಟ್ಟಿರುವೆನೆಂದು ತನ್ನ
ಪರಾಕ್ರಮವಂ ಕೊಚ್ಚಿ ಕೊಂಡನು.

III Write an essay in Kanarese on "*Indian Fruit-trees*" or on "*Volcanoes*"

"ಹಿಂದುಸ್ತಾನದ ಫಲವೃಕ್ಷಗಳು" ಅಥವಾ "ಜ್ವಾಲಾ ಮುಖಿಗ
ಳು." ಈ ಎರಡರಲ್ಲಿ ಒಂದನ್ನು ಕುರಿತು ಒಂದು ಉಪನ್ಯಾಸವನ್ನು ಬರೆ
ಯುವದು.

TUESDAY, 16TH DECEMBER, 10 A.M. TO 1 P.M.

MALAYALAM TEXT-BOOK AND GRAMMAR.

I. 1. തുള്ളൽപ്പാട്ട എത്രവകയാകുന്നു? ഓരോവകയുടെയും പേരും അതിന്റെ വിശേഷവും എഴുതുക.

2. കാഞ്ചവീയ്യുഞ്ഞുന വിജയം തുള്ളൽപ്പാട്ട ഉണ്ടാക്കിയത ആര്? ആ കവിയുടെ ചരിത്രം ചുരുക്കത്തിൽ പറയുക.

3. കാഞ്ചവീയ്യുഞ്ഞുനൻ, പുലസ്ത്യൻ-ഇവരുടെ കഥ ചുരുക്കത്തിൽ എഴുതുക.

II 1 താഴെചെത്ത വ്യാകരണപദങ്ങളൊരൊന്നിന്ന ഓരോരണ്ട ഉദാഹരണങ്ങൾ എഴുതുക.—തദ്ധിതനാമം - ഖരങ്ങൾ-ചൂണ്ടുപെർ - ബലക്രിയ - നിഷ്ഷെധക്രിയ-അനുകരണശബ്ദം - ഭൂതക്രിയാസ്സൂനം - ശബ്ദസ്സൂനം - വിധി-ഊനക്രിയ.

2. (a) ആഖ്യാതം സകർമ്മകക്രിയയ കന്ന ഒരു വാക്യം എഴുതുക. (b) ഉപവാക്യം എന്നത എന്ത?

III 1 താഴെകാണുന്ന വൃത്തങ്ങളുടെ അർത്ഥം വ്യക്തമായ മലയാളത്തിൽ എഴുതുക.—അമലസലിലനവകമലവിമലതര ശമലഹരണപട്ട * നന്മടയാകിയതീർത്ഥവിശെഷം ധന്മടയാനിധി നൃപതിവിശെഷം കന്മരനിക്ഷിതിടെവവിശെഷം ധർമ്മപരായണപുരുഷവിശെഷം.

2. ഇത ആര ആരൊട പറഞ്ഞത? എന്ത ഉദ്ദെശിച്ച? ഇതിന്റെ ശെഷം എഴുതുക.

IV 1. താഴെകാണുന്ന വൃത്തങ്ങളുടെ അർത്ഥം വ്യക്തമായ ഗദ്യത്തിൽ എഴുതുക:—

(a) ക്ഷീരം ഘൃതം തക്രവുമിക്ഷുമാരൻ
പാരം കൊതിച്ചിങ്ങു വരും ദശായാം,
പാരാതെ നൽകുന്നിതു ഞങ്ങളെല്ലാം
പോരാഞ്ഞു മൊട്ടിച്ചുമിവൻ ഭുജിക്കും.

(b) കണ്ണൻ തടാ മണ്ണു ഭുജിച്ചുപൊലും
ടണ്ഡം പിടിച്ചീടുമിവന്നു ദനം
എന്നിങ്ങിനെ കെട്ട യശൊദ വെഗാൽ
വന്നീടിനാളമ്പൊടു കൊപമോടെ

കൃഷ്ണം കുമാർ തവ വാ പിളന്നു
കാട്ടെന്നുമെന്നമ്മ പറഞ്ഞ നേരം
ഒട്ടും മടിക്കാതെ പിളന്നു വക്ത്രം
കാട്ടീടിനാൻ കൈതവമത്സ്യമൂർത്തി
(c) ശിശുവാകിന കൃഷ്ണനെച്ചതിപ്പാൻ
പശുവത്സാകൃതി പൂണ്ട കംസഭൃതൻ
അസുരാധമനാശു തതു ചെന്നാ
നസുനാശത്തിനടുക്കയാ ലൊരുന്നാൾ
കരുണാകരനങ്ങറിഞ്ഞു വെഗാൽ
ചരണം രണ്ടുമുടൻ കരെഗ്രഹീത്വാ
തരുതന്നിലടിച്ചു നിഗ്രഹിച്ചാൻ
തരസാ ദാനവനെ ത്രിലൊകനാഥൻ.

2. മെൽ ചെത്ത പദ്യങ്ങളിൽ കീഴ്വരയുള്ള പദങ്ങളെ വ്യാകരിക്ക. (3) കംസൻ ആരായിരുന്നു ? (4) കൃഷ്ണൻ വിഷ്ണുവിന്റെ എത്രാമത്തെ അവതാരം ? മറ്റു അവതാരങ്ങളുടെ പെരുകൾ എഴുതുക.

V 1 താഴെ കാണുന്ന ക്രിയകളുടെ ഭൂതകാലങ്ങൾ എഴുതുക :—

(a) പുകഴുന്നു, (b) വിൽക്കുന്നു, (c) പോകുന്നു, (d) വരളുന്നു, (e) അറുന്നു, (f) വെൾകുന്നു.

2. താഴെകാണുന്ന തദ്ഭവങ്ങൾക്ക തത്സമങ്ങൾ എഴുതുക :—

പൂതി, ഇടവം, പാരം, വെയിക്ക, ചാത്തം, തീവു, ചെട്ടൻ, ചാരം, അന്തി.

3. താഴെ എഴുതിയ അന്യദെശ്യ പദങ്ങളൊരൊന്നു ഏതു ഭാഷയിൽനിന്നു വന്നതാണെന്നും ഓരൊന്നിൽനിന്റെ അർത്ഥവും പറയുക :—

നളിനം, ചക്കുമുക്കി, ക്ഷണ്ഡൻ, പൊക്കിരി, കിനാവു, തകരാറു, വീഞ്ഞു, മിസ്രു, അതിജവം, കിശൊരൻ, മെശ, വിശദം.

VI. (1) അലവുട്ടിന്റെ കഥയിൽനിന്നു എന്തു അറിവു സിദ്ധിക്കുന്നു ? (2) "ആനയെകണ്ട കുരുടന്മാരുടെ ചെൽ" എന്നതിൽ സൂചിപ്പിച്ച കഥയെ ചുരുക്കമായി എഴുതുക. (3) അലവുട്ടിന്റെ കഥയിൽ പറഞ്ഞിരിക്കുന്ന അഞ്ചുപഴഞ്ചൊല്ലുകളെ എഴുതുക.

VII. താഴെ എഴുതിയിരിക്കുന്നതിനെ തെറ്റു തീർത്ത എഴുതുക :—

ഒരുദവസം ഒരു ദരിദ്രപ്പട്ട സ്ത്രീ ഒരു കുട്ടിയെ ഒക്കിൽവെച്ചു

ഒന്നിനെ തൊകളിൽ ഇട്ടുകൊണ്ടും ഒന്നിനെ കയ്യപ്പിടിച്ചു നടത്തി കൊണ്ടു മകാമോഹവെശപ്പൊട ക്രൂടവന്ന പിക്ഷുചൊതിച്ചും അവൾ വെശപ്പുകൊണ്ടു വാടിമെലിഞ്ഞു പറെയുന്നതിനുക്രൂടയും ശെഷി, ഇല്ലാതവളായി ഇരുന്നതിനാൽ അവൾക്ക മുമ്പ ഭക്ഷണംകൊട്ടുപ്പാൻ തക്കവെണ്ണം ഒരു എലവെട്ടിയിട്ടു ശൊറകൊടുത്തു.

TUESDAY, 16TH DECEMBER, 2 TO 5 P.M.

MALAYALAM: TRANSLATION AND COMPOSITION.

I. Translate into Malayalam :—[See Urdu Translation paper, page xxxiii.]

II. Translate into English :—

1. ദെഹംമെലിഞ്ഞതു കാരാഗ്രഹന്തന്നുള്ളിൽ
ദാഹംവിശപ്പുകൊണ്ടു മൊഹംവളൻതു
സ്നെഹംതിരിമ്പുള്ളൊരു ദെഹങ്ങളുമില്ല
ആഹന്തകഷ്ടം ദശകണ്ഠന്റെ വൎത്തമാനം
സ്നാനവുമില്ല മദ്യപാനവുമില്ലപാരം
നാണവുംപൂണ്ടു ദെഹംക്ഷീണവുമകപ്പെട്ടു.

2. ശുഭമതി വസുദെവനെവമപ്പൊൾ
അഭയമിരന്നു വണങ്ങിനിന്നുചൊന്നാൻ
അരുതരുതു വധൂവധം മഹാത്മൻ
ദുരിതമകപ്പെട്ടുമിപ്രകാരമായാൽ.
യുവതികളെവധിക്ക യൊഗ്യമൊതാൻ
അവരതിഭക്തകളെങ്കിലും നരെന്ദ്ര
ഇവൾ പുനരപരാധമെന്തുചെയ്തു
ശിവശിവ നിക്ഷപനായ തെന്തൊതാൻ.

3. ഗൊപലൊക മകടാവതംസ മണിനന്ദഗൊപതടെപതനയാം ഗൊപികാകുലകലാപമാകിന യശൊമതന്നു ദരകന്ദരെ ചെന്നിരുന്ന ഥജനിക്കനീജനന പാശനാശരചനൊന്മുഖെ നന്നുനന്നിതുനിനക്കെടൊ നിഖിലവന്ദനീയ ചരണാംബുജെ.

4 അതിന്നു രാജാവു അരുളിചെയ്തു. നിന്റെ കൊവിലകം പൊയ്പൊയതുകൊണ്ടു നമുക്ക ഏതുമില്ല. നമുക്ക നമ്മുടെപുത്രി അതിനെക്കാൾ ആറായിരം ഇരട്ടിവിലയുള്ളവളാകുന്നു. അതുകൊണ്ടു നീ അവളെ അന്വെഷിച്ചുകൊണ്ടു വരെണം. അല്ലാഞ്ഞാൽ നാം

നിന്റെ തലവെട്ടിച്ചെക്കുന്നുണ്ട. യാതൊരുസംഗതികൊണ്ടും നാം അതചെയ്യാതിരിക്കയുമില്ല.

അലവുദ്ദീൻ ഉത്തരമായി, അന്വെഷിച്ചുകൊണ്ടു വരെണ്ടതിന്ന നിന്തിരുവടി അടിയന്നു 40 ദിവസത്തെ ഇടകല്പിക്കെണം.

5. രാമൻ-എന്റെ ആശ്രിതന്മാര എന്നെ അന്വെഷിച്ച വരുന്ന ഘൊഷമാണ ഇത.

പിംഗളൻ-ഇതശരിതന്നെ, എന്തുകൊണ്ടെന്നാൽ ഇപ്പൊൾംരം കാട്ടിൽ * * *

കാശ്യപൻ - അത അങ്ങിനെതന്നെ. പീംഗളൻ-സ്നെഹിതന്റെ നായാട്ടുകൊണ്ടു സമയം അതിക്രമിക്കുന്നു.

III. Write an essay in Malayalam on "*Indian Fruit-trees*" or on "*Volcanoes.*"

ഇൻഡ്യായിലെ ഫലവൃക്ഷങ്ങളെ കുറിച്ചൊ അഗ്നിമലകളെകുറിച്ചൊ മലയാളത്തിൽ ഒരു പ്രസംഗം എഴുതുക.

TUESDAY, 16TH DECEMBER, 10 A.M. TO 1 P.M.

URIYA: TEXT-BOOKS AND GRAMMAR.

I. (କ) ଶକୁନ୍ତଳା ଉପାଖ୍ୟାନ କେଉଁ ମୂଳ ଗ୍ରନ୍ଥ ଅବଲମ୍ବନ କରି ଲିଖିତ ହୋଇଅଛି ? (ଖ) ସଂକ୍ଷେପରେ ଶକୁନ୍ତଳାଙ୍କ ଜନ୍ମ-ବୃତ୍ତାନ୍ତ ଲେଖ । (ଗ) ପ୍ରଥମ ଦର୍ଶନ କାଳରୁ ଶକୁନ୍ତଳା ଦୁଷ୍ମନ୍ତଙ୍କ ପ୍ରତି ଅନୁରାଗିଣୀ ବୋଲି ସେ କି ୨ ଲକ୍ଷଣଦ୍ୱାରା ଅନୁମାନ କରି ଥିଲେ ?

II. (କ) ଅନସୂୟା ଓ ପ୍ରିୟମ୍ବଦା ଏ ଦୁଇ ନାମର ସାର୍ଥକତା ଜଣା ଥିଲେ ଲେଖ । (ଖ) ଦୁଷ୍ମନ୍ତ-ସେନାପତି ମୃଗୟାର କି ଉପକାରିତା ଦେଖାଇ ଅଛନ୍ତି ? (ଗ) ଦୁଷ୍ମନ୍ତ ତାହାଙ୍କର ଶକୁନ୍ତଳାଙ୍କ ସହିତ ପରିଣୟ ବ୍ୟାପାର କି ହେତୁରୁ ଏକାଥରକେ ବିସ୍ମୃତ ହୋଇ ଥିଲେ ?

III. ନିମ୍ନୋଦ୍ଧୃତ ବାକ୍ୟମାନ କାହାର ଓ କେଉଁ ସମୟର ଉକ୍ତି :— 1. ବୁଝିଲୁଁ ଯେ ଆଜି ଉଦ୍ୟାନ-ଲତା ସୌନ୍ଦର୍ଯ୍ୟ ଗୁଣରେ ବନ-ଲତା ଦ୍ୱାରା ପରାଜିତ ହେଲା । 2. ଶିଷଙ୍କୁ ପରି ମଧ୍ୟ ସ୍ଥଳରେ ରହି । 3. ଚତୁରିକେ ! ବର୍ତ୍ତିକା ଓ ବର୍ଣ୍ଣ-ପାତ୍ର ଘେନି ଆସ । 4. ଭାଗ୍ୟଶ୍ରୀମେ ତପୋବନ ତୁମ୍ଭର ଉପବନ ହେଲା ।

IV ତଳ-ଲେଖିତ ବାକ୍ୟମାନଙ୍କର ବିଶଦ ବ୍ୟାଖ୍ୟା ଲେଖ:—(1) ବିମୋଚିନ ମନ୍ମଥ ବିଳାସ ଟାଣି ମନ ମାୟା ଯନ୍ତ୍ରେ, ଭୁଲାଏ କପଟ ମହେନ୍ତ୍ର କୌଶଳେ ଜନ୍ମାଇ ଚିତ୍ତେ କ୍ଷଣିକ ଉଲ୍ଲାସ, ଋଷୁକୁଳ ବିପ୍ଳବକୁ କରାଏ ପ୍ରକାଶ । (2) ଆୟି ଆତ୍ମାବମାନନ ! କେଉଁ ବ୍ୟକ୍ତି ଆତପତ୍ର ଦ୍ୱାରା ଶରତ୍କାଳୀନ ଜ୍ୟୋତ୍ସ୍ନାକୁ ନିବାରଣ କରେ ? (3.) ଶକୁନ୍ତଳା ଲଜ୍ଜାରେ ଜଡ଼ୀଭୂତା ଓ ନମ୍ରମୁଖୀ ହୋଇ ରହିଲେ । (4.) ବିନୟ ସଦ୍‌ଗୁଣର ଶୋଭା ସମ୍ପାଦନ କରେ ।

V ନିଦାଘ ପ୍ରଭାତେ କମଳାକରେ ନବୋଦିତ ପଦ-ଛବି ଆଗରେ ଦେଖି ହରଷିତ, ସଚେଜିନୀ-ଚିତ୍ତ ତୋ ଶ୍ରୀଶେ ସେ ହସେ ପ୍ରମୋଦ ଭରେ ଇଭରା ଯେସନ ନୀଳ ସାଗରେ । (କ) ଉପରୋଦ୍ଧୃତ କବିତାରେ କି ୨ ଆଳଙ୍କାରିକ ପ୍ରୟୋଗ ଅଛି ଲେଖ । (ଖ) ରେଖାରୂଢ଼ ପଦମାନଙ୍କର ସନ୍ଧି-ବିଚ୍ଛେଦ କର ଏବଂ ଶେଷ ପଦର ସନ୍ଧିର ସୂତ୍ର ନିର୍ଦ୍ଦେଶ କର ।

VI (କ) ନିମ୍ନ-ଦତ୍ତ ପଦମାନଙ୍କର ଅର୍ଥ ଲେଖ —ବେଣୀ-ରମ୍ୟ ଶ୍ୟାମ-ସୀମନ୍ତିନୀ, ସମ୍ବଳ, ସମାଧି, କଟାଳ, ଲତା ବିତାନ, ଅଭ୍ୟର୍ଥନା, ଚଳଗିରି, ଜନ୍ମାବଚ୍ଛିନ୍ନରେ, କୁବଳୟ, ଚିତ୍ତ-ବିନିମୟ, ଶ୍ରୀଡନକ । (ଖ) ତଳ-ଲେଖିତ ପଦମାନଙ୍କର ସମାସର ନାମ ଓ ବ୍ୟାଖ୍ୟା ଲେଖ —ନବମାଳିକାକୁ ସୁମକୋମଳା, ନିସ୍ତରଙ୍ଗ, ହରଶରାସନଭଙ୍ଗବାର୍ତ୍ତା ଶ୍ରବଣାଧୀର ଚିତ୍ତଜାମଦଗ୍ନ୍ୟ । "ଏବେ ମନ ସମୀର ସଞ୍ଚରେ ଚୁମ୍ବି ଫୁଲ ନଦୀ ପର୍ଣ୍ଣେ, ସଦା ପ୍ରେମ-କାଣ୍ଡ ବର୍ଣ୍ଣେ" । (ଗ) ଉଦ୍ଧୃତ କବିତାର ଅନ୍ୟୟ ବୁଝାଇ ଭାବାର୍ଥ ଲେଖ ।

VII (କ) ତଳ-ଲେଖିତ ବାକ୍ୟମାନଙ୍କୁ କର୍ମ୍ମଣି-ବାଚ୍ୟରେ ପ୍ରକାଶ କର:—(1.) ରାଜା ସାରଥିକୁ ମୃଗ ପଶ୍ଚାତରେ ରଥ ଚଳାଇବାକୁ ଆଦେଶ ଦେଲେ । (2) ନ୍ୟାୟର ଅପଳାପ କରି ତୁମ୍ଭେ ତାହାର ଉପକାର କର ଏ ପ୍ରକାର ମୁଁ କହିନାହିଁ ।

(ଖ) ତଳ-ଲେଖିତ ବାକ୍ୟମାନଙ୍କୁ କର୍ତ୍ତୃବାଚ୍ୟରେ ପ୍ରକାଶ କର:—(1) ଋଷିମାନଙ୍କ ଦ୍ୱାରା ଆସନ ପରିଗୃହୀତ ହେଲାରୁ ରାଜାଙ୍କ କର୍ତ୍ତୃକ ସମୟୋଚିତଶିଷ୍ଟାଚାର ସମ୍ପନ୍ନ ହେଲା । (2) ସୀତାରାମଙ୍କ ଦ୍ୱାରା ପରିତ୍ୟକ୍ତା ହେଲେ ମଧ୍ୟ ସେ ତାହାଙ୍କର ବିଚ୍ଛେଦ ଯନ୍ତ୍ରଣାରେ ନିରତିଶୟ ପୀଡିତା ହେଲେ ।

VIII "କେତେ ବେଶ ଧରି ବ୍ୟୋମ ହେଉ ପ୍ରକାଶିତ ।" ଉଦ୍ଧୃତ

ପଂକ୍ତିର ଭାବ କବି ଯେଉଁ ବିବିଧ ଦୃଷ୍ଟାନ୍ତ ଦ୍ୱାରା ସ୍ପଷ୍ଟ କରି ଅଛନ୍ତି ସେମାନଙ୍କର ବର୍ଣ୍ଣନା ଯେତେଦୂର ମନେ ଥାଏ ଲେଖ ।

TUESDAY, 16TH DECEMBER, 2 TO 5 P.M

URIYA: TRANSLATION AND COMPOSITION.

I. Translate into Uriya:— [See Urdu Translation Paper, page xxxiii.]

II Translate into English:—

(କ) ପ୍ରଭାତିଲା ବିଭାବରୀ, ହସିଲେ ଉଜ୍ଜ୍ୱଳେ ପଙ୍କଜ ବରଣୀ ଉଷା ଉଦୟ ଅଚଳେ, ନବୋଦିତ ଦିନମଣି ଆରକ୍ତ କିରଣ କାଞ୍ଚନ ଶିବିର ଚୂଡ଼ା ଚୁମ୍ବିଲା ବହନ; ଝର ଝର ଝରେ ନିଶି ପତିତ ତୁଷାର ଦୁଇ ଦଳେ ରଣ ସଜ୍ଜା କଲେ ଯେ ଯାହାର, ବାଜିଲା ବିବିଧ ବାଦ୍ୟ ମାତି ବୀର ରସେ, ଅଯୁଧ ଆସ୍ଫାଳି ବୀରେ ଧାଇଁଲେ ସାହସେ । (ଖ) ରାଜାଙ୍କର ଏହିରୂପ ଭାବ ବର୍ଣ୍ଣନରେ ମ୍ରୀୟମାଣା ହୋଇ ଶକୁନ୍ତଳା କହିଲେ ମୁଁ ଦୈବର ପ୍ରତିକୂଳତା ବଶତଃ ଅଙ୍ଗୁରୀୟ ଦର୍ଶନ ବିଷୟରେ ଅକୃତକାର୍ଯ୍ୟ ହେଲି ସତ୍ୟ, କିନ୍ତୁ ଏ ପ୍ରକାର କୌଣସି କଥା କହୁଅଛି ଯେ ତାହା ଶୁଣିଲେ ଅବଶ୍ୟ ତୁମ୍ଭର ପୂର୍ବ ବୃତ୍ତାନ୍ତ ସ୍ମରଣ ହେବ । ରାଜା କହିଲେ ତାହା ଶୁଣିବାର ଆବଶ୍ୟକ, କଥଣ କହି ଆମ୍ଭର ପ୍ରତୀତି ଜନ୍ମାଇବ କହ । ଶକୁନ୍ତଳା କହିଲେ ମନେ କର ଦିନ କରେ ତୁମ୍ଭେ ଓ ଆମ୍ଭେ ନବମାଳିକା-ମଣ୍ଡପରେ ବସିଥିଲାଇଁ, ତୁମ୍ଭ ହସ୍ତରେ ଚୋଟିଏ ଜଳପୂର୍ଣ୍ଣ ପଦ୍ମପତ୍ର ଠୋଳା ଥିଲା, ରାଜା କହିଲେ ଉତ୍ତମ କହି ଯାଅ ଶୁଣୁ ଅଛୁଁ । (ଗ) ପାର୍କ ଶୁଣି ଅତ୍ୟନ୍ତ ଉଦ୍‌ବିଗ୍ନ ହେଲେ, କିନ୍ତୁ ଆଉ କୌଣସି ଉପାୟ ନ ଦିଶିବାରୁ ଅଗତ୍ୟା ସେହି ଗ୍ରାମକୁ ଚାଲେ । ବାଟ ମଧ୍ୟରେ ରଜନୀ, ଝଟିକା ଓ ବୃଷ୍ଟି ଉପସ୍ଥିତ ହେଲା । କିୟତ୍‌କ୍ଷଣ ପରେ ସେ ଗ୍ରାମରେ ପ୍ରବିଷ୍ଟ ହେଲେ, କିନ୍ତୁ ବିଦେଶୀ ବୋଲି କେହି ସାହସ କରି ତାହାଙ୍କୁ ଆଶ୍ରୟ ଦେଲେ ନାହିଁ । ସୁତରାଂ ସେ ଅତ୍ୟନ୍ତ ବିପଦରେ ପଡିଲେ । ବିଶେଷତଃ ସେଠାରେ ବନ୍ୟ ଜନ୍ତୁର ଉପଦ୍ରବ, ଅନାବୃତ ସ୍ଥଳରେ ରହିଲେ ପ୍ରାଣ ଯିବାର ସମ୍ପୂର୍ଣ୍ଣ ସମ୍ଭାବନା, ଅତଏବ କି ଉପାୟରେ ନିରାପଦରେ ରାତ୍ରି ଯାପନ କରିବେ, ଏହି ଚିନ୍ତା ତାଙ୍କୁ ଆକୁଳ କଲା ।

III. Write an essay in Uriya on "*Indian Fruit-trees*" or on "*Volcanoes.*"

TUESDAY, 16TH DECEMBER, 10 A.M. TO 1 P.M.
FRENCH: TEXT-BOOKS AND GRAMMAR.

I. 1 What is the gender of the following words:—brebis, vautour, aigle, perdrix, boîte, melon, raisin, feuille, bois, rivière fleuve, marmite, armure, foudre.

2. Form the feminine of—Turc, long, malin, fou, roux, vieux faux, muet, bas, gros, épais, coi, fat.

3. Place the accent on—fete, mechant, plutot, pate, acces, etonner, supreme, centieme.

4. Write the plural of—chef-d'œuvre, pied-à-terre, contre-coup, and give the rules.

II. 1. Distinguish between the word *même* as an adjective and as an adverb

2. Give the rules for the use of *aucun* and *nul*

3 To what use is the pronoun *qui* limited when it is governed by a preposition?

4. What is the pronunciation of *f* in cerf; *c* in second; *ch* in chaos; *o* in paon; *h* in histoire, huître, héros, haïr, and honte.

5. Place the right preposition after—craindre, désespérer, désirer, en finir, tâcher, en vouloir.

III. 1. Conjugate interrogatively the present of the verbs finir and dormir.

2 How many infinitives can be used consecutively in the French language?

IV. 1. Mark the difference between:—(*a*) quoique written in one word, and quoi que; (*b*) imaginer and s'imaginer; (*c*) plier and ployer; (*d* imposer and en imposer; (*e*) insulter quelqu'un and insulter à quelqu'un; (*f*) entre and parmi.

2. Correct the following mistakes:—(*a*) Aussitôt son départ (*b*) Vendre bon marché. (*c*) Il est assis contre vous. (*d*) Crainte qu'il ne vienne. (*e*) Jeu d'eau (*f*) Demander excuses. (*g*) Eresypéle. (*h*) Ils s'en sont fuis

V. Give the rules for the agreement of the adjective with the substantive in the following cases:—

1. (*a*) When there are several substantives; (*b*) when the substantives are synonymous; (*c*) when the substantives are limited by the conjunction ou.

2. Give the special rules.—(*a*) for the adjective *feu*; (*b*) for two adjectives of which the first is qualified by the second.

VI. 1. Translate into English:—(*a*) Avez-vous vu glisser le long des murailles ces pauvres êtres abandonnés? (*b*) Comme leur tête était ignominieusement couverte, leur regard morne et leurs traits lugubres! (*c*) Est-il vrai que leurs cheveux seront rasés pour toujours, et que leur famille les repoussera avec mépris? (*d*) Nous serons donc forcés de rester tranquilles spectateurs? (*e*) J'aurais cru que le sang aurait bouillonné dans, vos veines.

2. Translate idiomatically into French.—(*a*) He longs to see England. (*b*) I was not far from being angry (*c*) I have just

seen him. (*d*) I ought to have done that. (*e*) Whether he writes or not, it is the same thing. (*f*) How much he esteems you!

VII. (1) By what comparison does Fénélon illustrate Mentor's way of fighting? (2) Give Fénélon's description of the good administration of Egypt. (3) Write the English equivalents for—(*a*) dresser les cheveux sur la tête: (*b*) glacer le sang dans les veines. (4) Mention the causes which led to the destruction of Bucchoris.

VIII. (1) Give the English of—péristyle, architrave, frise, fronton, bas-relief, festons, biche. (2) Write short notes on—Hazaël, Minos, Tritons, Amphitrite, Polémon. (3) Draw the portrait of Eole, using as much as possible the expressions of the author.

IX. Explain the meaning of the following expressions or words:—

(1) A ces mots on cria haro sur le baudet. (2) Un loup quelque peu clerc; (3) Etre à bout. (4) Ratapolis. (5) Ventre affamé n'a pas d'oreilles. (6) Expédiant les loups en forme. (7) Pitance, ripaille, lopin, happe, victuaille, lacs, émoucheur, coi, bissac, pause, esclandre, malotru.

X. 1. Sum up in a few words the fable *Le singe et le léopard.*

2. Define, in English, the court, according to the appreciation of Lafontaine.

3. Paraphrase briefly, giving the comparisons of the author:—

Les gens sans bruit sont dangereux,
Il n'en est pas ainsi des autres.

XI. What are the characteristic beauties of (1) Fénélon, and (2) Lafontaine.

Tuesday, 16th December, 2 to 5 p.m.

FRENCH: TRANSLATION.

I. Translate into English:—

1. Mais ce qui acheva de me rendre fameux parmi nos bergers, c'est qu'un jour un lion affamé vint se jeter sur mon troupeau: déjà il commençait un carnage affreux; je n'avais en main que ma houlette; je m'avance hardiment. Le lion hérisse sa crinière, me montre ses dents et ses griffes, ouvre une gueule sèche et enflammée; ses yeux paraissent pleins de sang et de feu; il bat ses flancs avec sa longue queue. Je le terrasse: la petite cotte de mailles dont j'étais revêtu, selon la coutume des bergers d'Egypte, l'empêcha de me déchirer. Trois fois je l'abattis, trois fois il se releva; il poussait des rugissements qui faisaient retentir toutes les forêts. Enfin je l'étouffai entre mes bras; et les bergers, témoins de ma victoire, voulurent que je me revêtisse de la peau de ce terrible lion.

2. Ce pays est au pied du mont Liban, dont le sommet fend les nues et va toucher les astres; une glace éternelle couvre son front; des fleuves pleins de neige tombent, comme des torrents, des pointes des rochers qui environnent sa tête. Au-dessous on voit une vaste forêt de cèdres antiques, qui paraissent aussi vieux que la terre où ils sont plantés, et qui portent leurs branches épaisses jusque vers les nues. Cette forêt a sous ses pieds de gras pâturages

dans la pente de la montagne. C'est là qu'on voit errer les taureaux qui mugissent, les brebis qui bêlent, avec leurs tendres agneaux qui bondissent sur l'herbe fraîche : là coulent mille ruisseaux d'une eau claire, qui distribuent l'eau partout Enfin, on voit au-dessous de ces pâturages le pied de la montagne qui est comme un jardin : le printemps et l'automne y règnent ensemble pour y joindre les fleurs et les fruits Jamais ni le souffle empesté du midi, qui sèche et qui brûle tout, ni le rigoureux aquilon, n'ont osé effacer les vives couleurs qui ornent ce jardin.

3. Dans un chemin montant, sablonneux, malaisé,
Et de tous les côtés au soleil exposé,
Six forts chevaux tiraient un coche.
Femmes, moines, vieillards, tout était descendu.
L'attelage suait, soufflait, était rendu.
Une mouche survient, et des chevaux s'approche,
Prétend les animer par son bourdonnement.
Pique l'un, pique l'autre, et pense à tout moment,
Qu'elle fait aller la machine,
S'assied sur le timon, sur le nez du cocher :
Aussitôt que le char chemine,
Et qu'elle voit les gens marcher,
Elle s'en attribue uniquement la gloire, .
Va, vient, fait l'empressée : il semble que ce soit
Un sergent de bataille allant en chaque endroit
Faire avancer ses gens, et hâter la victoire.

4. Le savetier crut voir tout l'argent que la terre
Avait depuis plus de cent ans
Produit pour l'usage des gens.
Il retourne chez lui : dans sa cave il enserre
L'argent et sa joie à la fois.
Plus de chant ; il perdit la voix
Du moment qu'il gagna ce qui cause nos peines.
Le sommeil quitta son logis ;
Il eut pour hôtes les soucis,
Les soupçons, les alarmes vaines
Tout le jour il avait l'œil au guet, et la nuit,
Si quelque chat faisait du bruit,
Le chat prenait l'argent. A la fin le pauvre homme
S'en courut chez celui qu'il ne réveillait plus :
Rendez-moi, lui dit-il, mes chansons et mon somme,
Et reprenez vos cent écus.

II Translate into French :—

1. How fair is the rose ! What a beautiful flower,
The glory of April and May !
But the leaves are beginning to fade in an hour,
And they wither and die in a day.
Yet the rose has one powerful virtue to boast,
Above all the flowers of the field ;
When its leaves are all dead, and its fine colours lost,
Still how sweet a perfume it will yield !

2. A more fearful spectacle was never witnessed than by those who, without the power to aid, beheld their heroic countrymen rushing to the arms of death. At the distance of 1,200 yards, the whole line of the enemy belched forth, from thirty iron mouths, a flood of smoke and flame through which hissed the deadly balls. Their flight was marked by instant gaps in our ranks, by dead men and horses, by steeds flying wounded or riderless across the plain, The first line is broken; it is joined by the second; they never halt or check their speed an instant.

III. Translate into English:—

1. Un jour Louis XIV. jouant au trictrac, il y eut un coup douteux. On disputait; les courtisans demeuraient dans le silence. Le comte de Gramont arrive. Jugez-nous, lui dit le roi.—Sire, c'est vous qui avez tort, dit le comte.—Et comment pouvez-vous me donner le tort avant de savoir ce dont il s'agit?—Eh! Sire, ne voyez-vous pas que, pour peu que la chose eût été seulement douteuse, tous ces messieurs vous auraient donné gain de cause?

2. J'ai faim: vous qui passez, daignez me secourir
Voyez: la neige tombe, et la terre est glacée.
J'ai froid: le vent se lève, et l'heure est avancée,
Et je n'ai rien pour me couvrir.
Tandis qu'en vos palais tout flatte votre envie,
A genoux sur le seuil, j'y pleure bien souvent.
Donnez: peu me suffit, je ne suis qu'un enfant:
Un petit sou me rend la vie.

WEDNESDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

ARITHMETIC.

I. Reduce 2149908480 sq. inches to acres, etc. If this is the area of a rectangle, the length of which is 5 m. 7 fur. 5 p. 1 ft. 6 in., find its breadth.

II. Simplify $\frac{1835}{2202} + \frac{5468}{12303} + \frac{147}{441} - 3\frac{1}{7}$ of $\frac{6{\cdot}25}{5{\cdot}5}$ of $\frac{{\cdot}04}{1{\cdot}285714}$

III. Find the value of 237 candies 17 maunds 6 viss @ Rs. 4100 1*a.* 4*p.* per candy.

IV. 300 coolies are set to build a tank-bund. In 14 weeks they have done $\frac{7}{10}$ of the work when rain stops the work for 4 weeks and washes away $\frac{1}{7}$ of what they have done. At the end of that time the work is resumed with only 250 coolies. In what time from the commencement will the work be finished?

V. Find the amount of Rupees 58,59,375 for 3 years @ $4\frac{1}{8}$ per cent. per annum, reckoning compound interest.

VI. Explain the difference between discount and interest. If the discount on £2830 15*s.* $7\frac{1}{2}$*d.* be equal to the simple interest on £2784 7*s.* 6*d.* for the same time, find the time, the rate of interest being 5 per cent. per annum.

VII. A person invests £34,539 in the 3 per cents at 87. After receiving one year's dividend he sells out at 89. He then invests

the whole in Railway stock, paying 5 per cent., at 115. What will the difference in his income be?

VIII. A cistern 10 ft. 6 in. long, by 7 ft. 6 in. wide, by 3 ft. 4 in. high is lined inside with lead, 7 lbs. of which cover a square foot. Find the weight of the lead and its cost at 53*s.* 4*d.* per cwt.

IX A cask contains 16 gallons of spirit. Two gallons are drawn off and the cask filled up with water. Two gallons are again drawn off and the cask filled up as before. This is done a third time. Compare the quantities of spirit and water remaining in the cask

X. Find the square root of 379749833·583241.

WEDNESDAY, 17TH DECEMBER, 2 TO 3·30 P.M

ALGEBRA

I. Simplify the following expressions, arranging the last in ascending powers of x·

1 $\{m-n-(3x-2y)\}-[3m+2n-\{x-y+(m+2n)-(2y-x)\}]$

2 $$\left(\frac{x^a}{x^b}\right)^{a+b} \div \left(\frac{x^{a+b}}{x^{a-b}}\right)^{\frac{a^2}{b}}$$

3 $(x^2-xy+y^2)(x^2-2xy+y^2)(x^2+xy+y^2)(x^2+2xy+y^2)$

II. Find the G.C.M. of $6x^3+7x^2-9x+2$, and $8x^4+6x^3-15x^2+9x-2$, and write down the L.C.M. in factors.

III Extract the square root of

$$x^2(x^2+y^2+z^2)+2x(y+z)(yz-x^2)+y^2z^2$$

IV. Simplify

1. $$\frac{a^2-(b-c)^2}{(a-b)(a-c)}+\frac{b^2-(c-a)^2}{(b-c)(b-a)}+\frac{c^2-(a-b)^2}{(c-a)(c-b)}$$

2 $$\frac{\frac{x^2+y^2}{y}-x}{\frac{1}{y}-\frac{1}{x}} \times \frac{x^2-y^2}{x^3+y^3}$$

V Solve the following equations:—

1. $$\frac{x-1}{x-2}+\frac{x-4}{x-5}=\frac{x-2}{x-3}+\frac{x-3}{x-4}$$

2 $$\begin{aligned} x-y+z&=1\\ x-2y+4z&=8\\ x-3y+9z&=27 \end{aligned}$$

VI A sum of Rs 63 4*a.* was paid in rupees and two-anna pieces The total number of coins being 100, how many of each kind were used?

Thursday, 18th December, 10 a.m. to Noon.

GEOMETRY.

I. If two triangles have two sides of the one equal to two sides of the other, each to each; but the angle contained by the two sides of one of them *greater* than the angle contained by the two sides equal to them of the other; the base of that which has the *greater* angle shall be greater than the base of the other. If the two angles be together equal to two right angles, prove that the triangles will be equal in area.

II. Give the construction only for each of the following:—

1. To a given straight line to apply a rectangle equal to a given square.

2. To describe a square equal to a given rectilineal figure.

III. AD is the perpendicular from A on BC of a triangle ABC having an acute angle at B. Shew that the square on AC is less than the squares on AB, BC by twice the rectangle BC, BD.

IV. The angles in the same segment of a circle are equal to one another.

ABP is a triangle described on a given base AB: What is the locus of P when the vertical angle is of given magnitude? For what position of P will the triangle be greatest?

V. Distinguish between a *segment* and a *sector* of a circle.

Prove that any straight line drawn through the middle point of the line joining the centres of two equal circles divides each of the circles into segments, such that the segments of the one circle are equal to the segments of the other.

VI. If a straight line touch a circle and from the point of contact a straight line be drawn cutting it: shew that the angles which this line makes with the tangent are equal to the angles in the alternate segments of the circle. Enunciate the *converse* of this proposition.

VII. Prove that the quadrilateral formed by the tangents at the extremities of any two diameters of a circle is generally a rhombus.

Thursday, 18th December, 2 to 3·30 p.m.

PHYSICS.

I. State the law that connects the velocity of a moving body with its ability to overcome resistance.

II 1 Given (*a*) a solid cylinder fitting exactly into a hollow socket, (*b*) an elastic cord, (*c*) a jar, and (*d*) water; explain how by means of these you would demonstrate the principle of Archimedes.

2. A dish is quite full of mercury. If a 4 lb. iron. weight is now laid on the surface of the mercury how many cubic inches of mercury will overflow? (Given that 1 cub. foot of water weighs 1000 oz. avois.)

III. A dozen similar glass balls are laid in a smooth horizontal groove, each ball just touching the next; if two of the balls be

taken and rolled smartly against one end of the row, state briefly what will happen and what this illustrates.

IV. Distinguish clearly between the latent heat of water and of steam. How would you prove in an easy way that the latent heat of steam is nearly 7 times that of water?

V 1. Explain the use of a glass chimney round the flame of a lamp

2. Give, in a general way, the physical cause of winds.

VI. 1 How would you experimentally find the focus of a magnifying glass?

2. In the shutter of a dark room there is a narrow slit which is covered, the lower half with red and the upper with blue glass; a prism is placed near the slit with its edge parallel to it, and the refracted image is caught on a screen. Describe and explain the appearance of this image.

VII. 1. Give four examples showing that an electric current possesses energy.

2. How can we prove that the outer coating of a Leyden jar is oppositely electrified to the inner coating?

VIII. Given some insulated copper wire, a voltaic battery, and a steel needle; how would you show in a general way the principle of the electric telegraph?

THURSDAY, 18TH DECEMBER, 3·35 TO 5·5 P.M.

CHEMISTRY.

I. How would you ascertain the composition of air? The respiration of animals is said to be an act of oxidation: explain the meaning of this statement, name the products formed as a result of this act, and describe how the presence of each in expired air may be proved.

II Describe what occurs and name all the products obtained when (1) red oxide of mercury is heated, (2) steam is passed over red-hot iron, (3) sulphuric acid is poured on zinc, (4) powdered antimony is put into chlorine, (5) sulphur is burned in the air, (6) chalk is heated

III. What are the different forms in which free carbon occurs in nature, and how do these forms differ from each other? In combination with what other elements does carbon exist in animal and vegetable matter, and how do plants obtain their carbon? Mention two other elements which, like carbon, exist free in more than one form.

IV. Explain what is meant by saying that the combining weight of oxygen is 16, and that of magnesium 24. How have these numbers been obtained? Describe an experiment which shows that when these elements combine, the weights which do so are in the ratio of these numbers.

V. State how the following substances are prepared, and mention some of the properties of each:—carbon dioxide, saltpetre, blue

vitriol, potash, common salt, chlorine, sulphate of zinc. Express by means of chemical equations the reactions which take place in the preparation of any of these substances.

Friday, 19th December, 10 a.m. to Noon.
HISTORY OF INDIA.

I. In what parts of India are descendants of aborigines now to be found? What different European nations invaded India at different times, and which of them settled in the country?

II. State the principal differences between the religion founded by Buddha and the Hinduism of his day.

III. Give a short account of the life of Mahmad of Ghazni.

IV. When, and how, did the English acquire (1) Arakan, (2) Coorg, (3) Nagpur, (4) Pegu, (5) Scinde?

V. (1) Describe the origin of the East India Company; (2) mention the first English settlements in India; and (3) state how these came into the possession of the English.

VI. Mention the chief military achievements of Robert Clive.

VII. (1) What changes in administration were introduced by Lord Cornwallis; and (2) what reforms by Lord William Bentinck?

VIII. Write short historical notes (with dates) on the following:—(1) Battle of Guzerat; (2) Khalsa; (3) Sir William Macnaghten; (4) Trimbakji; (5) Pindaris; (6) Vellore Mutiny; (7) Peace of Seringapatam; (8) Battle of Arni; (9) Treaty of Madras; (10) Battle of Plassey.

Friday, 19th Decemrer, 12·5 to 2·5 p.m.
HISTORY OF ENGLAND.

I. (1) What historical facts can be traced in the composition of the following names:—Winchester, Essex, Edinburgh, Bury St. Edmunds? (2) To what persons, and why, were the following titles given:—the Angevins, the King-maker, the Great Commoner, the Iron Duke?

II Give briefly (1) the objects, chief parties, and dates of the following agreements:—Wedmore, Magna Charta, Bretigny, Rhyswick; (2) the causes and results of the following conflicts:—the wars of the Roses, the Hundred Years' war, the Continental campaigns of the great Duke of Marlborough, the Crimean war

III. Assign (1) dates to the following events:—Battles of Crecy, Barnet, Blenheim; discovery of America; Spanish Armada; (2) events to the following dates:—1314, 1415, 1645, 1665, 1707.

IV. When, and how, were (1) the following territories added to the British Empire.—Ireland, Gibraltar, Canada, the Carnatic-Malta; (2) the following lost:—Normandy, Calais, Minorca, the American States, Guienne?

V. 1. Write a concise biography of *any two* of the following:—Dunstan, Richard III., Wolsey, Warren Hastings.

2. Who were the Lollards, Caxton, Sir Thomas More, the Young Pretender, the Chartists?

VI. Explain the origin and nature of the Feudal System, Statute of Præmunire, the Petition of Right, the Bloody Assize, School Boards.

FRIDAY, 19TH DECEMBER, 3 TO 5 P.M.

GEOGRAPHY.

I. Draw a map of North America, putting in the chief lakes, rivers, and mountains, and the following towns:—Quebec, New York, Chicago, San Francisco, New Orleans, Philadelphia.

II Describe the course of the Rhine, mentioning the countries through or between which it flows, its tributaries, and the chief towns on its banks.

III. Compare and contrast with respect to physical features, *either* Asia and Europe, *or* North-America and South-America

IV 1. Describe the Madras Presidency under the following heads:—(*a*) physical features, (*b*) climate, (*c*) vegetation, (*d*) commerce, (*e*) industries, (*f*) railways, (*g*) religion, (*h*) government, (*i*) language, (*k*) inhabitants

2. Write brief notes on Trichinopoly, Calicut, Masulipatam, and Kurnool.

V. Describe the existing form of Government in The United States, Japan, Switzerland, and Russia.

VI. Name:—(1) the French possessions in India; (2) the four chief Japanese islands; (3) the straits between Sicily and Italy; (4) the mountains which divide Biluchistan from Scinde; (5) the highest peak in the Nilgiris; (6) the University towns of India; (7) the chief town in New South Wales; (8) the principal export of Denmark.

VII. Where, and what, is each of the following:—Gobi, the Sunderlands, Heligoland, Morea, Jamaica, Valparaiso, Zanzibar, Diu?

VIII. Name in order the countries through which the equator passes, and the chief towns situated on or near it.

FIRST ARTS EXAMINATION, 1890.

MONDAY, 15TH DECEMBER, 10 A.M. TO 1 P.M.

ENGLISH POETRY.

I 1. "The Play of Julius Cæsar might more fitly be called after Brutus than after Cæsar." Discuss this statement

2 It has been suggested that Cassius was better qualified than Brutus to head the conspiracy Give your opinion on this.

II. 1. Distinguish between the mirth which Milton commends in

L'Allegro, and that which he condemns in the opening lines of Il Penseroso.

2. Prophetic or significant dreams are of frequent occurrence in the Idylls. Refer to such a dream in your text, and give its fulfilment

3 Contrast the characters of Guinevere and Elaine.

III. 1. Paraphrase (*a*) and (*c*), and explain (*b*) :—

(*a*) Between the acting of a dreadful thing
And the first motion, all the interim is
Like a phantasma, or a hideous dream
The genius and the mortal instruments
Are then in council; and the state of man,
Like to a little kingdom, suffers then
The nature of an insurrection.

(*b*) Such sweet compulsion doth in music lie,
To lull the daughters of Necessity,
And keep unsteady Nature in her law,
And the low world in measured motion draw
After the heavenly tune, which none can hear
Of human mould with gross unpurged ear.

(*c*) But, friend, to me,
He is all fault who hath no fault at all:
For who loves me must have a touch of earth,
The low sun makes the colour

2. State very briefly the connexion in which the following passages occur in the text, giving the name of the speaker in each case :—

(*a*) Never yet
Was noble man but made ignoble talk.

(*b*) O error, soon conceived,
Thou never comest unto a happy birth,
But kill'st the mother that engender'd thee!

IV. 1 Explain (*not paraphrase*) the following passages :—

(*a*) When the strong neighings of the wild white Horse
Set every gilded parapet shuddering.

(*b*) In some high lonely tower,
Where I may oft outwatch the Bear,
With thrice great Hermes.

(*c*) For we are at the stake,
And bay'd about with many enemies.

2. Write short notes explanatory of the italicised epithets :—(*a*) *unreproved* pleasures; (*b*) *secure* delight; (*c*) a sad *leaden* downward cast; (*d*) *buskined* stage; (*e*) the *flattering* hand; (*f*) the *ghostly* man

3. Give the meaning of (*a*) hearts of controversy; (*b*) a shrewd contriver; (*c*) to bear one hard; (*d*) formal constancy; (*e*) to wear a kerchief; (*f*) to cry 'Havoc,' and let slip the dogs of war; (*g*) an itching palm; (*h*) to be in their bosoms.

V 1 The following words occur in the text with a meaning dif-

ferent from ordinary modern usage. Give both meanings of each word:—make, murmurs, element, physical.

2. Trace the connexion between the primary meaning of the italicised words and the meaning which each bears in the following passages:—

(*a*) A daughter fair,
So *buxom*, blithe, and debonair.
(*b*) The *cynosure* of neighbouring eyes.
(*c*) For thy *humour* I will stay at home
(*d*) What *villain* did stab . . . . and not for justice.

3. Give the meaning of the words in italics.—

(*a*) Will you wear my *favour* at this tourney?
(*b*) By no means I may discover them
By any mark of *favour*.
(*c*) When love begins to sicken and decay,
It useth an *enforced* ceremony.
(*d*) His glory not extenuated . . . nor his offences *enforced*
(*e*) His costly gift *hard* won and *hardly* won.

VI. 1. Name and define the figure in "With wanton hoed and giddy cunning;" and give an example of the same figure from Elaine

2 Write a short note on (*a*) the drudging goblin, (*b*) the cur few, (*c*) the bellman's drowsy charm; mention from your text three of the compound epithets that form so marked a feature of Tennyson's style; and give three examples of a play upon words from *Julius Cæsar* (not from the first Scene).

VII. 1. Write a short grammatical note on the italicised parts of:—(*a*) Ay, and truly, *you were best*. (*b*) *Many a* time and oft (*c*) I do beseech *ye*, if *you* bear me hard.

2. Account for the number of the verbs in (*a*) and (*b*), and state in what points the syntax of (*c*) differs from that of modern English:—

(*a*) Three parts of him *is* ours already.
(*b*) The posture of your blows *are* yet unknown
(*c*) Brutus had rather be a villager
Than to repute himself a son of Rome
Under these hard conditions as this time
Is like to lay upon us.

Monday, 15th December, 2 to 5 p.m.

ENGLISH PROSE.

I. 1. Sketch briefly the main features of the policy of Louis XI., and explain why he was anxious to keep on good terms with the Duke of Burgundy at the time of which *Quentin Durward* treats.

2. How did the Scottish Body Guard come into existence, and why was it so carefully maintained by Louis?

II. Cqntrast the characters of Louis and Charles, and illustrate your answer by references to scenes at Peronne.

III. 1. Explain the proverbs quoted or referred to in the following sentences, and say in what connexion they occur:—(*a*) If old saws speak truth, water will not drown him (*b*) Better kind fremit, than fremit kindred. (*c*) He will chase with the hounds, and run with the hare, with any Prince in Christendom.

2. From what poets and from what poems are the following quotations taken:—(*a*) Ah, freedom is a noble thing (*b*) Leave all hope behind.

IV. 1. Why did Louis desire that the Countess Isabelle should fall into the hands of William de la Marck?

2 How did Martius Galeotti avert the fate with which he was threatened in the Castle of Peronne?

3. Why did the appearance of Quentin Durward in Liége create so much excitement among the town's people?

V. Explain the following sentences, mentioning by whom, and in what circumstances, they were spoken:—

1. I have come between Amadis and Oriana, and must expect a challenge to the lists.

2. I wish we have not got King Stork, instead of King Log.

3. I will along with you and take a lesson in the degrees of roguery, from observing your skill in marshalling them.

VI. 1. Mention the names of three of Goldsmith's distinguished friends, and tell for what they are famous.

2. Give Macaulay's criticism of 'the Deserted Village.'

VII. 1. Write explanatory notes on:—(*a*) Noll wrote like an angel, and talked like poor Poll (*b*) Many men of less parts than his have made their way to the woolsack or to the episcopal bench

2. Give in simple English the meaning of the following passages:—(*a*) The strictest prophylactic measures are necessary to prevent certain poaching practices of thinking men into the sacred domain of sleep. (*b*) The worst thing a young man can do, who wishes to educate himself æsthetically, according to the form of nature, is to begin criticising, and cultivating the barren graces of the NIL ADMIRARI

VIII. 1. Who are spoken of in *Self Culture* as, (*a*) the wise old bard of Weimar, (*b*) the late distinguished head of the utilitarian school of ethics, (*c*) the great Punic captain, (*d*) the rare old Bœotian.

2 (*a*) Mention what, according to Blackie, are the chief causes of untruthfulness in young men. (*b*) Give briefly Blackie's estimate of the Value of Logic as a means of mental culture.

IX. 1. Explain *six* of the following expressions:—the *tiers état*; a general retainer; to run the gauntlet; a thorn in his side; damning with faint praise; a strolling player; Jacques Bonhomme; a broad arrow; a Spanish toledo; tolling to vespers

2. Give the meaning and derivation of the following words:—paladin, cuirass, sardonic, cenotaph, libel, scurrilous.

TUESDAY, 16TH DECEMBER, 10 A.M. TO 1 P.M.

ENGLISH LANGUAGE.

I. Write an essay of not more than three pages on the advantages and disadvantages of natives of India visiting England.

II. Paraphrase the following.—

I seek thy solitudes profound, in this
Thy hour of deep tranquillity, when rests
The sunbeam on thee, and thy desert seems
To sleep in the unwonted brightness—calm
But stern; for, though the spirit of the spring
Breathes on thee, to the charmer's whisper kind
Thou listenest not, nor ever puttest on
A robe of beauty, as the fields that bud
And blossom near thee. Yet I love to tread
Thy central wastes when not a sound intrudes
Upon the ear, but rush of wing, or leap
Of the hoarse waterfall And, oh, 'tis sweet
To list the music of thy torrent streams;
For thou too hast thy minstrelsies for him
Who from their liberal mountain-urn delights
To trace thy waters, as from source to sea
They rush tumultuous

III. Give the meaning of any six of the following, and make sentences of your own introducing each of the six you select:—a bird's eye view; a peeress in her own right; born with a silver spoon in his mouth; to lay a ghost; applauded to the echo; the small hours of the morning; the fourth estate; as the crow flies; to draw the long bow; a bed of roses; pour oil on the troubled waters; the schoolmaster is abroad.

IV. Write a short paragraph illustrating any *one* of the following proverbs:—(1) Possession is nine points of the law. (2) Silence gives consent (3) Let sleeping dogs lie.

V. Make sentences introducing each of the following phrases so as to show clearly their meaning.—fall in with; fall to; fall out; fall on; hold in; hold out; hold off; hold forth.

VI. Distinguish the words in six of the following pairs:—disbelief, unbelief; perspicuity, perspicacity; sanatory, sanitary; beside, besides; each, every; invalid, invalid; between, among; childish, childlike; confide in, confide to; robber, thief

VII. (1) Give four nouns in which the masculine is derived from the feminine. (2) Give four nouns which have the same form in the plural as in the singular. (3) Give the nominative case of *his* in the sentence, "If the salt have lost *his* savour, &c.", and the positive degree of *more* in (*a*) he has *more* wealth than sense; (*b*) he has *more* rupees than he needs. (4) Give the force of *shall* in "she says that he *shall* go to Calcutta to-morrow." (5) Give the causative form of—drink, lie, rise.

VIII Analyze the following into clauses and state the grammatical

relation in which each subordinate clause stands to some word in the sentence :—

She thanked me,
And bade me, if I had a friend that loved her,
I should but teach him how to tell my story,
And that would woo her.

IX. Re-write the following in Iambic pentameter lines; punctuate and scan the lines :—

As captive boys cowed by the ruling rod and haughty frowns of pedagogues severe from their hard tasks if once dismissed no limits can contain the tumult raised within their little breasts but give a loose to all their frolic play so from their kennel rush the joyous pack. (*N.B.*—The words are given in metrical order).

TUESDAY, 16TH DECEMBER, 2 TO 5 P.M.

PHYSIOLOGY.

I. Give a general account of the relations of the cavity of the mouth to the apertures and cavities connected with it.

II. Describe the mechanism of ordinary inspiration.

III. Explain fully how milk is digested and absorbed.

IV. What is the difference between secretion and excretion? Classify as secretory or excretory the skin, liver, lungs, gastric glands, kidney, and pancreas.

V. With what substances must a man's body be supplied in order that he may continue to do work without losing weight? Explain, in general terms, how these substances are used.

WEDNESDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

SANSKRIT: TEXT-BOOKS AND GRAMMAR.

I. Paraphrase in Sanskrit :—

1. संकल्पितं प्रथममेव मया तवार्थे भर्तारमात्मसदृशं सुकृतैर्गता त्वम् । चूतेन संश्रितवती नवमालिकेयमस्यामहं त्वयि च संप्रति वीतचिन्तः ॥

2. तव कुसुमशरत्वं शीतरश्मित्वमिन्दोर्द्वयमिदमयथार्थं दृश्यते मद्विधेषु । विसृजति हिमगर्भैरग्निमिन्दुर्मयूखैस्त्वमपि कुसुमबाणान् वज्रसारीकरोषि ॥

II. 1 What is Kālidāsa's purpose in introducing Durvāsas into the story of Śākuntala?

2. Quote or give the substance of the lines from both your texts in praise of hunting.

3. Who are quoted in the Śukranītisāra as having come to grief (*a*) for indulgence in dice; (*b*) for pursuing an improper course of conduct; (*c*) for disobeying paternal orders, and as having conquered the आरिषड्वर्ग?

4. Where should a king build his capital?

5. What is understood by वार्ता, विराट्, and सुमन्त्र?

III. 1. रूपोच्चयेन विधिना मनसा कृता नु.

State the significance of the above three instrumental cases, and the two ways of interpreting the word अपरा in स्त्री-रत्नसृष्टिरपरा प्रतिभाति सा मे.

2. What was Dushyanta's answer to Anasūyā's question, who he was, and why he came to the Áśrama? Show how he did not speak an untruth.

3. शान्तमिदमाश्रमपदं स्फुरति च बाहुः कुतः फलमिहास्य. What is the omen?

4. Bring out the force of the pronoun किं in (*a*) का कथा बाणसन्धाने ज्याशब्देनैव दूरतः सविघ्नानपोहति, and (*b*) प्रियायाः साबाधं किमपि रमणीयं वपुरिदम्.

5. Explain the idioms in आर्य इयमस्मि, यथाज्ञापयति देवः.

IV. 1. Explain in English.—(*a*) सुगृहीतः क्षणः; (*b*) पूर्वदेवाः; (*c*) रैवतक त्वमपि स्वनियोगमशून्यं कुरु; (*d*) यथा न विधवेन्द्राणी; (*e*) तीव्राघातप्रतिहततरुस्कन्धलग्नैकदन्तः; (*f*) किमत्र चित्रं यदि विशाखे शशाङ्कलेखामनुवर्तते; (*g*) कामं प्रिया न सुलभा मनस्तु तद्भावदर्शनाश्वासि; (*h*) विस्तरार्धांशमध्योच्चा छदिः खर्परसम्भवा.

2. Give the meaning of the words underlined in.—(*a*) (i) सन्देहपदेषु वस्तुषु; (ii) युवतयः....गृहिणीपदं यान्ति; (iii) असत्यसन्धे जने शकुन्तला पदं कारिता. (*b*) (i) धान्यनां जातिं

भोगं च परिग्रहम्; (ii) असंशयं क्षत्रपरिग्रहक्षमा. (c) (i) छाया लक्ष्मीः च स्वामिता; (ii) छायाः चरन्ति बहुधा भयमादधानाः पिशिताशनानाम्. (d) वसुधातलम् and अतिमात्रलोहिततलौ बाहू.

3. What is the special meaning in which the words दक्ष and वादन are used in the Śukranīti? What is their usual meaning?

4. Distinguish in meaning between (a) अभिरूपः and अनुरूपः; (b) दास्याःपुत्रः and दासीपुत्रः; (c) आशीः and वरः; (d) अभ्युपपत्तिः and प्रतिपत्तिः; (e) अस्त्रं and शस्त्रं; (f) उपलम्भनम् and समालम्भनम्.

5. Give Sanskrit words for (a) absent-minded; (b) pilot; (c) a slow worker; (d) surety; (e) creditor; (f) brass; (g) village police-station

V. 1. स्रोतः स्रोतोवहो यथा, (a) state the gender of the first word; (b) decline the other word in the singular number in all the cases.

2. Give the force of the affixes and prefixes in the following:— (a) रथ्यः; (b) माङ्गल्यं; (c) वैधवेयः; (d) ज्ञातवान्; (e) ज्ञानवान् (f) कुसीदं; (g) पल्ययनं; (h) आतपः.

3. Account for the cases in (a) वृक्षसेचने द्वे धारयसि मे; (b) लोहमास्वादयति मृत्यवे.

4. Analyse the compounds (a) अवस्थान्तरम्; (b) नरकभाजनः; (c) अपीतेषु; (d) बाणासनम्; (e) हरिणनयना; (f) निरायतपूर्वकायः.

5. With what tenses (लकाराः) is combined the prohibitive particle मा?

6 Parse (*a*) धक्ष्यति; (*b*) जिघृक्षति; (*c*) आकार्यन्ते; (*d*) उत्ताम्य; (*e*) लोलुभ्यमानः; (*f*) जापयिष्यामि.

7 Give the third person singular imperfect (लङ्), benedictive (आशीर्लिङ्), and aorist (लुङ्) in the causative parasm of (*a*) नी to lead or guide; (*b*) दा to give, (*c*) जन् to be born

WEDNESDAY, 17TH DECEMBER, 2 TO 5 P.M

SANSKRIT TRANSLATION

I. Translate into English —

1. ग्रीवाभङ्गाभिरामं मुहुरनुपतति स्यन्दने दत्तदृष्टिः
पश्चार्धेन प्रविष्टः शरपतनभयाद्भूयसा पूर्वकायम् ।
दर्भैरर्धावलीढैः श्रमविवृतमुखभ्रंशिभिः कीर्णवर्त्मा
पश्योदग्रप्लुतत्वाद्वियति बहुतरं स्तोकमुर्व्यां प्रयाति॥१॥
चलापाङ्गां दृष्टिं स्पृशसि बहुशो वेपथुमतीं
रहस्याख्यायीव स्वनसि मृदु कर्णान्तिकचरः ।
करौ व्याधुन्वत्याः पिबसि रतिसर्वस्वमधरं
वयं तत्त्वान्वेषान्मधुकर हतास्त्वं खलु कृती ॥ २ ॥
गाहन्तां महिषा निपानसलिलं शृङ्गैर्मुहुस्ताडितं
छायाबद्धकदम्बकं मृगकुलं रोमन्थमभ्यस्यतु ।
विश्रब्धं क्रियतां वराहततिभिर्मुस्ताक्षतिः पल्वले
विश्रामं लभतामिदं च शिथिलज्याबन्धमस्मद्धनुः ॥३॥
इदमशिशिरैरन्तस्तापाद्विवर्णमणीकृतं
निशि निशि भुजन्यस्तापाङ्गप्रसारिभिरश्रुभिः ।
अनभिलुलितज्याघाताङ्कं मुहुर्मणिबन्धना-
त्कनकवलयं स्रस्तं स्रस्तं मया प्रतिसार्यते ॥ ४ ॥

रम्यान्तरः कमलिनीहरितैः सरोभि-
श्छायाद्रुमैर्नियमितार्कमयूखतापः ।
भूयात्कुशेशयरजोमृदुरेणुरस्याः
शान्तानुकूलपवनश्च शिवश्च पन्थाः ॥ ६ ॥

2. धीमन्तो वन्द्यचरिता मन्यन्ते पौरुषं महत् ।
अशक्ताः पौरुषं कर्तुं क्लीबा दैवमुपासते ॥
दैवे पुरुषकारे च खलु सर्वं प्रतिष्ठितम् ॥ १ ॥
प्रकीर्णविषयारण्ये धावन्तं विप्रमाथिनम् ।
ज्ञानांकुशेन कुर्वीत वश्यमिन्द्रियदन्तिनम् ॥ २ ॥
ग्रामद्वयान्तरे चैव पान्थशालां प्रकल्पयेत् ।
नित्यं संमार्जितां चैव ग्रामपैश्च सुगोपिताम् ॥ ३ ॥
तत्रागतं तु संपृच्छेत् पान्थं शालाधिपस्सदा ।
प्रयातोऽसि कुतः कस्मात् क्व गच्छसि ऋतं वद ॥ ४॥
न कार्यं भृतकः कुर्यान्नृपलेखाद्विना क्वचित् ।
नाज्ञापयेल्लेखनेन विनाल्पं वा महन्नृपः ॥ ५ ॥
भ्रांतेः पुरुषधर्मत्वाल्लेख्यं निर्णायकं परम् ।
अलेख्यमाज्ञापयति ह्यलेख्यं यत्करोति यः ॥ ६ ॥
राजकृत्यमुभौ चोरौ तौ भृत्यनृपती सदा ।
नृपसंचिह्नितं लेख्यं नृपस्तन्न नृपो नृपः ॥ ७ ॥
सामन्तेष्वथ भृत्येषु राष्ट्रपालादिकेषु यत् ।
कार्यमादिश्यते येन तदाज्ञापत्रमुच्यते ॥ ८ ॥
ऋत्विक्पुरोहिताचार्यमन्येष्वभ्यर्चितेषु च ।
कार्यं निवेद्यते येन पत्रं प्रज्ञापनाय तत् ॥ ९ ॥

3. संपत्सु महतां चित्तं भवेदुत्पलकोमलम् ।
आपत्सु च महाशैलशिलासंघातकर्कशम् ॥ १ ॥

करे श्लाघ्यस्त्यागः शिरसि गुरुपादप्रणयिता
मुखे सत्या वाणी विजयि भुजयोर्वीर्यमतुलम् ।
हृदे स्वच्छा वृत्तिः श्रुतमधिगतं च श्रवणयोः
विनाप्यैश्वर्येण प्रकृतिमहतां मण्डनमिदम् ॥ २ ॥

II. Translate the following into Sanskrit:—

The kings of India were divided in ancient times into two dynasties, the Solar and the Lunar, and their capitals were respectively Ayōdhyā, and Hastināpura near the modern Delhi. The history of those two kingdoms is found in the two celebrated poems—the Rāmāyana and the Mahābhārata.

The Rāmāyana was composed by Vālmīki and the hero of the poem is Rāma He is now regarded as an incarnation of Vishnu. It is believed that he came into the world to deliver it from a great giant named Rāvana, who was the king of the giants and was doing a great deal of mischief on the earth. Rama was banished to live in the jungles for fourteen years. While he was living in the Daṇḍaka forest, his wife was carried away by Rāvana and was placed in the garden of aśoka trees She was there guarded by a number of female demons whom Rāvana appointed to do the work. With the help of Sugrīva, Hanuman and other monkey chiefs, and their armies, Rāma built a bridge across the ocean and went to Laṅkā, which was the capital of Rāvana. He waged a terrible war and defeated and killed the demons and all their leaders and Rāvana, their king. He anointed Vibhīshana, the brother of Rāvana, who had been a friend to him, as the king of Laṅkā, and, accompanied by Sītā, his dear wife, and Lakshmana, his brother, and all the monkeys and their chiefs, he returned to Ayōdhyā. With the blessings of Vasishṭha and other sages, and to the great joy of all the people of the world, he ascended the throne of Ayōdhyā and protected the people according to the rules. He ruled over the earth for a long time, and at last returned to Vaikuṇṭha.

WEDNESDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

LATIN: TEXT-BOOKS AND GRAMMAR.

I 1. Intransitive verbs admit of an impersonal passive in Latin. Show this in the case of the intransitives *satisfacere* and *nocere*, by giving their impersonal passive forms in all the tenses of the indicative and subjunctive.

2 Using *satisfacere* as an impersonal passive, express in Latin:—I shall be satisfied. They had not been satisfied. Are you not satisfied?

II. The following are nouns, adjectives, or verbs used in your texts:—adipem, cie, concinnior, cucumis, sanxerunt, incoque, relines, metunt, tenuia, torquibus, metitur, tunsum.

Write down (1) the nominative and the genitive singular of the nouns and adjectives; (2) the principal parts of the verbs.

III (1) Trace to their roots or component elements—delirus, templum, sestertius, tibicen; and give in each case the etymological meaning (2) Mark the difference in meaning between—templum, delubrum; utĕris, utēris; delectos habebat, delegerat; confectum putabat, conficiendum putavit. (3) Show the force of the suffix in *palmetum*, and quote three other nouns that take the same suffix; the force of the prefixes in *suspicere* and *recludere*; the force of the subjunctive and of the indicative in—sunt qui non *habeant*, est qui non *curat* habere (4) Conjugate in the present indicative—mihi videre videor *(methinks I see)*.

IV. Re-write in the form of *directa oratio*, substituting classical forms for archaisms —Quorum Iugurtha accepta oratione respondit: sibi neque maius quidquam, neque carius auctoritate senati: ab adolescentia ita enisum, uti ab optumo quoque probaretur; virtute, non malitia, P Scipioni, summo viro, placuisse: ob easdem artis ab Micipsa, non penuria liberorum, in regnum adoptatum ceterum quo plura bene atque strenue fecisset, eo animum suum iniuriam minus tolerare. Adherbalem dolis vitæ suæ insidiatum; quod ubi comperisset, sceleri obviam isse; populum Romanum neque recte, neque pro bono facturum, si ab iure gentium sese prohibuerit: postremo de omnibus rebus legatos Roman brevi missurum.

V. Express in Latin:—(1) God protects and favours the good. (2) It is too good to be true. (3) I am not such a fool as to run the race for honours without being prepared for it. (4) Micipsa had good reasons to doubt whether Jugurtha would ever change his course of life. (5) 10,000,000 sesterces.

VI. Translate and explain the construction of the italicised words:—

1. Hic iam galbaneos suadebo incendere odores,
   Mellaque arundineis inferre canalibus, ultro
   Hortantem et fessas ad pabula nota vocantem.
2. Fiet eritque tuus nummorum *millibus* octo
3. Sed res Persarum brevi adolevit: ac postea nomine Numidæ, propter multitudinem a parentibus digressi, possedere ea oca quæ proxume *Carthaginem* Numidia *appellatur*.
4. Neque meam mentem non *domum* sæpe revocat exanimata uxor, abiecta metu filia, et parvulus filius, quem mihi videtur amplecti respublica, tamquam *obsidem* consulatus mei.

VII. 1. Write grammatical notes on the words in italics—(*a*) Vicit tamen in senatu pars illa *qui* vero pretium aut gratiam anteferebant. (*b*) Legatorum verba *quanti* fecerit pericula mea declarant. (*c*) Melior vacua sine *regnet* in aula (*d*) Est etiam flos in pratis cui nomen *amello*. (*e*) Suadebo *incendere* odores.

2. Remark on the metre in the following lines:—
   (*a*) Non te nullius exercent numinis iræ
   (*b*) Cecropiumque thymum et graveolentia centaurea.

VIII. Translate and explain the meaning by reference to the context or otherwise :—

1. Ille Bioneis sermonibus et sale nigro (delectatur).
2. Ludentis speciem dabit, et torquebitur, ut qui
   Nunc Satyrum, nunc agrestem Cyclopa movetur.
3. Idem Hiempsal placere sibi respondit : nam ipsum illum tribus his proximis annis adoptione in regnum pervenisse.
4. Nil intra est oleam, nil extra est in nuce duri.

IX. (1) Iugurtha bellum gerere cœpit. Express the same, using the passive form of *cœpit*. (2) Vallo atque fossa mœnia circumdat. Without changing the verb, use a different construction. (3) Legatos ad Iugurtham de iniuriis questum misit. Use a clause instead of the supine. (4) Quæ sint, quæ fuerint, quæ mox ventura trahantur. Substitute one single Latin word for each clause. (5) Cæruleos implexæ crinibus angues Eumenides. How would a prose writer, using the same words, express this ?

X. Answer *any two* of the following questions :—

1. Under what circumstances was III. Oratio in Catilinam delivered, and what is the drift of it ?
2. What particulars of his former life does Horace mention, or allude to, in the epistle ad Florum ?
3. What feelings did Micipsa entertain towards Jugurtha ? What induced the former to adopt the latter into his family ?

WEDNESDAY, 17TH DECEMBER, 2 TO 5 P.M.

LATIN : TRANSLATION.

I. Translate into English :—

1 Sin duram metues hiemem parcesque futuro
Contunsosque animos et res miserabere fractas,
At suffire thymo cerasque recidere inanes
Quis dubitet ? nam sæpe favos ignotus adedit
Stellio et lucifugis congesta cubilia blattis
Immunisque sedens aliena ad pabula fucus ;
Aut asper crabro imparibus se immiscuit armis,
Aut dirum, tiniæ, genus, aut invisa Minervæ
Laxos in foribus suspendit aranea casses.

2. Tantum effatus Ad hæc vates vi denique multa
Ardentes oculos intorsit lumine glauco,
Et graviter frendens sic fatis ora resolvit :
" Non te nullius exercent numinis iræ ;
Magna luis commissa : tibi has miserabilis Orpheus
Haud quaquam ob meritum pœnas, ni Fata resistant,
Suscitat, et rapta graviter pro coniuge sævit.
Illa quidem, dum te fugeret per flumina præceps,
Immanem ante pedes hydrum moritura puella
Servantem ripas alta non vidit in herba

3. Multa quidem nobis facimus mala sæpe poëtæ,
Ut vineta egomet cœdam mea, cum tibi librum

Sollicito damus aut fesso; cum lædimur, unum
Si quis amicorum est ausus reprehendere versum;
Cum loca iam recitata revolvimus irrevocati;
Cum lamentamur non apparere labores
Nostros et tenui deducta poemata filo;
Cum speramus eo rem venturam, ut simul atque
Carmina rescieris nos fingere, commodus ultro
Arcessas et egere vetes et scribere cogas.
Distat enim, spargas tua prodigus, an neque sumptum
Invitus facias neque plura parare labores,
Ac potius, puer ut festis Quinquatribus olim,
Exiguo gratoque fruaris tempore raptim.
Pauperies immunda domus procul absit. ego, utrum
Nave ferar magna an parva, ferar unus et idem.
Non agimur tumidis velis aquilone secundo;
Non tamen adversis ætatem ducimus austris,
Viribus, ingenio, specie, virtute, loco, re
Extremi primorum, extremis usque priores.

5 Atque ea lenitate senatus usus est, ut ex tanta coniuratione tantaque hac multitudine domesticorum hostium novem hominum perditissimorum poena republica conservata, reliquorum mentes sanari posse arbitraretur. Atque etiam supplicatio dis immortalibus pro singulari eorum merito meo nomine decreta est, quod mihi primum post hanc urbem conditam togato contigit, et his verbis decreta est, "quod urbem incendiis, cæde cives, Italiam bello liberassem." Quæ supplicatio si cum ceteris supplicationibus conferatur, hoc interest, quod ceteræ bene gesta, hæc una conservata republica constituta est.

6. At Iugurtha, contra spem nuncio accepto, quippe cui, Romæ omnia venum ire, in animo hæserat, filium et cum eo duo familiares ad senatum legatos mittit: hisque, ut illis quos Hiempsale interfecto miserat, præcepit, "omnes mortales pecunia adgrediantur" Qui postquam Romam adventabant, senatus a Bestia consultus est, placeretne legatos Iugurthæ recipi mœnibus iique decrevere, "nisi regnum ipsumque deditum venissent, uti in diebus proximis decem Italia decederent."

7. Et sane Gracchis, cupidine victoriæ, haud satis moderatus animus fuit Sed bono vinci satius est quam malo more iniuriam vincere Igitur ea victoria nobilitas ex lubidine sua usa, multos mortales ferro aut fuga exstinxit; plusque in reliquum sibi timoris quam potentiæ addidit. Quæ res plerumque magnas civitates pessum dedit; dum alteri alteros vincere quovis modo et victos acerbius ulcisci volunt Sed de studiis partium et omnibus civitatis moribus si singulatim aut pro magnitudine parem disserere, tempus quam res maturius deseret.

(Not from text-books.)

8 Rex spoliari corpus Pori, interemptum esse credens, iussit, et qui detraherent loricam vestemque, concurrere; quum elephantus dominum tueri et spoliantes cœpit appetere, levatumque corpus eius rursus dorso suo imponere. Ergo telis undique

obruitur, confossoque eo in vehiculum Porus imponitur Quem rex ut vidit allevantem oculos, non odio sed miseratione commotus, "quæ," inquit, "amentia te coegit, rerum mearum cognita fama, belli fortunam experiri? At ille, "quoniam," inquit, "percontaris, respondebo ea libertate, quam interrogando fecisti. Neminem me fortiorem esse censebam Meas enim noveram vires, nondum ex pertus tuas fortiorem esse te, belli docuit eventus Sed ne sic quidem parum felix sum, secundus tibi"

II. Translate into Latin :—

After the capture of this city, a woman of low rank approached the Emperor and complained with bitterness that some of his soldiers had carried off her cattle in the night while she was asleep and that she had nothing left to live on "Tell me," said the Emperor, with a smile, "how it happened that the robbers did not wake you. I could not have slept so soundly." "True," replied the woman, "I did sleep soundly, but it was in the fullest confidence that you O king, were watching for the safety of your poorest subjects." The conqueror, instead of being annoyed at this freedom, praised the woman's courage and ordered ample amends to be made her for the loss she had sustained

WEDNESDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

ARABIC: TEXT-BOOKS AND GRAMMAR.

I 1. Give—(*a*) the English meanings of :—

صو - المقة - الغشيشم الفداك - خزعبلات - قرحة - زهاء - مَهلا - مقطرة - قدور راسيات - خلع الطاعة - حبة الكزبرة - دبس *

(*b*) the technical meanings of the underlined words :—

فلا بد من حضور العبد بين يديك - ليكشف لك عن قضاياه التي لا تخرج عن حيّز التصديق - ولا يتصور من موضوعها محمول يدل على نفي ما هو بالاذعان حقيق - وهذا انما هو تاكيد للحجّة - وعلى ذلك لا تخفاه هذه المحبة *

2. Distinguish between دخل الّي فلان and دخل عليه فلان - دنا منّي and دنا الّي - من and عن - حتي and الى *

II. Paraphrase :—

سافر اذا حاولت امرا * سار الهلال فصار بدرا *

٢ و بقلة الدرر النفيسة * عوّضت بالبحر بحرا *
٣ و الماء يكسب ما جري * طيبا و يخبث ما استقرا *
٤ فبا لله عليك الا ما قلت عذري - ٥ وسردا ما ذكرتم
عن شرح العلوي الله على طرف الثمام - ٦ و لعلّك تقول حال اطلاعك على هذه الا لوكة كما قال القائل الطل من الحبيب وابل -
٧ قل لي فمن انت في الرقعة ايها الخامل - والمتشدق الذي لم يفزمن بغيه بطائل - ٨ وما آل اليه مآ لك *

1. Re-write the above couplets, with the اعراب

2. Point out the نصرفات شاعري in the second and third couplets

3. Give the تعليل of لم يفز - نقول - صار - قل

4. Parse the underlined words.

5. What is the meaning of ما in ٤ of the above? Name the word with which it should be connected.

III. 1. Re-write the last syllable (according to the rules of تقطيع) of each line in the following couplets :—

سيد امة البتول وجداه ,, المثني و احمد المختار
وابوه الرضا علي وعماه ,, عقيل و جعفر الطيار

2. Who is the author of the first line of the following couplet? Quote the second line as written by the author of the first :—

ما كل ما يتمني المرء يدركه *
و مسلك المجد مبني كيف يسلكه *

IV. 1 Are the following منصرف or غير منصرف State your reasons *اشياء - مساجد - حمراء - اسود - ندمان - ادم - نوح - زينب

2. Are افعال المدح والذم declinable or indeclinable?

3. When can a نكرة be the subject of a sentence?

4. What is the meaning of ضمير الفصل? When is it omitted in a sentence? Distinguish between ضمير الفصل and ضمير التاكيد

V. 1. State whether جمع can become مصغر : Give reasons and examples

2. Enumerate with examples the various kinds of
مستثني - مبني - معرب

3. Under what circumstances may the nominative be omitted?

VI. 1. Write in full the words denoted by the following abbreviations:— * ح - ڈنا - الخ - رض - عم - تع - ک - مم

2. What is the meaning of الماضي when followed by ما - إن - إذا ?

VII. 1. State the rules regulating the agreement in gender between the cardinal numbers and the nouns denoting the objects numbered.

2. Explain the terms اسباب الامتناع من الصرف and name them.

VIII. 1. Give the exact meanings of the prepositions من , عن and ل as used in the following:—

(من) الذي خلقكم من نفس واحدة - دخل من الباب . عبد الله من شبابه - مما خطياتهم اغرقوا - كل من هابيل و قابيل (عن) يقاتل عنه - سانبئك عن مجموعها - وهو فني عنها - حكي عن الشافعي - تعالي الله عما يشركون (ل) فلله ذالک - ولهذا قيل - فانه اقرب للتعظيم *

2. State the reason for the gender and number of the verbs in the following:—

(١) طلعت الشمس (٢) قال الموصدون (٣) انومن كما امن السفهاء (٤) قد كُذّبت رسل من قبلک (٥) قالت بنو إسرائيل ٦) قال نسوة في المدينة (٧) لله ملائكة يعاقبون فيكم (٨) ودخل معه السجنَ فتيانِ *

3. Which of the following forms is preferable:—

(١) نعم المراة زينب or نعمت المراة زينب (٢) ذلك الفوز العظيم or ذلك هو العظيم *

IX. 1. When two verbs connected with و and referring to the same subject, precede that subject, state the gender and number of each verb.

2. What is meant by the grammatical expression التنازع في العمل ? Give some illustrations.

WEDNESDAY, 17TH DECEMBER, 2 TO 5 P.M.

ARABIC: TRANSLATION.

I. Translate into Arabic :—

From this time until close upon the death of Walid, the son and successor of Abd-ul-malik, Hejjaj ruled the two Iraks with all the power of an independent Prince. So great, indeed, was the confidence reposed in him by the Khalif, that Khorasan, Sind and even Northern Africa were ruled by him. He nominated the Governors of all these provinces, choosing them from his own family, as men on whose devotion he could depend. But their rule was a very harsh one. The prisons, which were very badly arranged, were filled with suspected criminals. There was no roof to protect the prisoners from the heat of the sun in summer, or from cold winds in winter. The air was filled with the cries and groans of the poor captives. "Can they not die in silence," said the Governor of Irak, as he one day rode by the prison house. The result of this tyrannical government of the people was that they were driven into revolt. A formidable rebellion broke out. Men thought that, if they were to die, it would be better to do so fighting for liberty, than quietly to submit to the terror caused by a bad administration. But the armies of the rulers were too strong for the so-called rebels, large numbers of whom found a speedy death on the battle-field.

II. Translate into English :—

(1) ثم قال الملك جزاك الله خيرا - ثم نظر الي الببغا وقال
نمم كلامك فقال الببغا بعد خطبة اما بعد فايها الانسي امّا الذي
ذكرت بانه منكم صنّاع و اصحاب حرف فليس بفضيلة لكم دون
غيركم ولكن قد شاركم فيها بعض الطيور والهوام والحشرات -
بيان ذلك ان النّحل من الحشرات وهي في اتّخاذ البيوت وبناء
المنازل اعلم واحذق من صناعكم المهندسين والبنّائين منكم -
و ذلك انها تبني بيوتها منازل طبقات مستديرات كالانراس بعضها
فوق بعض من غير خشب ولا طين ولا اجرّ ولا جص كانها غرف
من فوقها غرف وتجعل بيوتها مسدّسات متساوية الاضلاع
و الزوايا لما فيها من اتقان الحكمة و الصنعة و احكام البنية

ولا تحتاج في عمل ذلك الى فركار تديرها ولا مسطرة تخطّها ولا شاقول تدلّيها ولا كونيا تقدّها كما يحتاج البنّاؤن من بني آدم - ثم انها تذهب في الرعي وتجمع الشمع من ورق الاشجار والنبات بارجلها والعسل من زهر النبات ونور الاشجار وورودها تجمعه بمشافرها ولا تحتاج في ذلك الى زبيل ولا سلّة ولا ملقط ولا مكتل تجمعه فيها *

(2) سلام علي تلك الخلائق انّها *
هي الثمرات الطيبات التي تُجنى *
وَ صَلي ايّها الصّنو المكرم *
كتابك المشتمل على الدّر المنظّم *

فلله انت يا جامع اشتات الادب - ومن اظهر نفايس فنّ البديع ما اطرب واعجب - شعر

اتاني منك مرقوم كريم ، وجدتُ من البلاغت فيه اجزا
كتابٌ كلّما املتُ انّي ، اردّ جوابه امسكتُ عجزا

هذا وما ذكرتم عمّا تعسّر حصوله - فسيكون عن قريب اليكم وصوله - والاشياءُ كما علمتم مرهونة باوقاتها - وغير ممكن بان تُوجَدَ بدون وجود علّتها و ادواتها - هيّأ الله لكم الاسباب - واتاكم ما تحبون انه كريم وهاب - نعم سيدي المقطرةُ التي اردتموها بذلك الوصف لا يتاتّى حصولها في البدر - اذ ليس هذا من له فيها اسم بصدده نظر - وقد نحصل اتفاقا عند بعض النحاسين - في بعض الاحايين - فمتي وجدته عنده اليكم علي العين والراس -

فلا تكثروا لاجله الوسواس - ثم لا تخفاكم اني اجبت علي فلان حسبما امرتم - وهذا صورة الجواب بطي المرقوم فتاملوه وفي حفظ الله لا برحتم *

(3) انسانٌ مرةً حمل جُرزةَ حطب فثقُلتْ عليه - فلما اَعيا وضجر من حملها رمى بها عن كتفه ودَعا علي روحه بالموت - فشخص له قائلًا هو ذا انا لمَاذا دعوتني - فقال له الا نسانُ دعوتُك لترفعَ هذه جُرزةَ الحطب علي كتفي *

WEDNESDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

PERSIAN: TEXT-BOOKS AND GRAMMAR.

I. 1. Show by apt quotations, with reference to Hafiz, (*a*) that he was a patriot, (*b*) that he was a fatalist.

2. To whom and to what are the following descriptive phrases applied by Hafiz: justify the description in each case:—

بلبل غزلخوان - عروس فلک - منشي فلک - شير آفتاب گير - مي - ديو ميخانه - جام جهان نما - ساقي - لعل - گل - ظلمات - خضر راه *

II. Paraphrase—

١ زانجا که لطف شامل خلق کريم تست *
جرم نکرده عفو کن و ماجرا مپرس *

٢ ديو ما گفت خطا بر قلم صنع نرفت *
آفرين بر نظر پاک خطا پوشش باد *

٣ جلوهٔ گرد رخش ديد ملک عشق نداشت *
عين آتش شد ازين غيرت و بر آدم زد *

٤ محدسب خم شکست و من سر او *
سن بالسن والجروح قصاص *

٥ شاه ترکان سخن مدعيان مي شنود *
شرم از مظلمهٔ خون سياوشش باد *

(٦) اگر اين دفعه مصدر خيانت و شور بختي شوي چشمهاي تو نمک گير اين اوجاق خواهد شد - (٧) قلاع سخت ديان قلوب

ایشان نه هجوم جنود نصایح رخنه بذیر و در حیز تسخیر نه -
(۸) فقدان ذخیره و علیق نیز علاوهٔ علت باران و ناسازي هوا گشته
(۹) در و دیوار عمارات رفیعه نقش عالیها سافلها گرفت *

(1) Show if in the first and second of the above couplets there is any ground for اعتراض. (2) Analyse the third couplet. (3) Give the نقطیع of any one line.

III. Give—1. The esoteric meaning of :—

ایکه پیرانه سرم صحبت یوسف بنواخت *
اجر صبري ست که در کلبهٔ احزان کردم *
گرفوت شد سحور چه نقصان صبوح هست *
از مي کنند روزه کشا طالبان یار *

2. The meaning in Persian of the following words and phrases :

طاق مقرنس - قزل اوطاق - سیور سات - اغروق - خالصه جات - شوامخ جبال - یورغه مال - دمه - عورفان - جولکا - شدات - اصطناع - صبائي - کماکان - یسان - بستن - شرناشران *

3. The six different significations of گوهر - رنگ - لحو - عین *

IV 1. Point out and explain the لطائف شعري وصنائع in :—

شکر شکر نه شکرانه بیفشان ایدل *
که نگار خوش شیرین حرکاتم دادند *
هردم از روی تو نقشی زندم راه خیال *
تا که گویم که درین برده چها مي بینم *
گفتم که ابتدا کدم از بوسه گفت مي *
بگذار تا که ماه ز عقرب بدر شود *
گفتم خراج مصر طلب میکند لبت *
گفتا درین معامله کمتر زیان کند *

2. the allusions in :—

من آن نگین سلیمان نه بیچ بستانم *
که گاه گاه نرو دست اهرمن باشد *
چون سامری مباش که زرداد از خری *
موسی بهشت و از بیء گوساله میرود *

راستي خاتم فيروزهٔ بو اسحاقي *
خوش در خشيد ولي دولت مستعجل بود *

V. Give a short account of the following :—

1. Nadir's discourse at صحراى مغان in 1148 A H.

2. The action of شاه اسمعيل صفوي in religious matters

VI Quote the تاريخ which gives the date of Nadir's accession to the Persian throne, and the inscriptions he caused to be then put on the coins.

VII. 1 How are the following formed

معرفه - اسم فاعل ترکيبي - حاصل مصدر ؟

2. Write out a few مرکب اضافي in which فک اضافت is necessary State the rule.

3. Define and illustrate—

ايهام - اغراق - مجاز - استخدام - حشو - جامع اللسانين - ارسال المثل - تلميع *

VIII 1. Give the اوزان of بحر هزج - بحر متقارب - بحر خفيف - رباعي

2. Distinguish between—

مقطوع الاضافت و قلب الاضافت - محذوف و مقدر - سجع و قافيه - لغز و معما *

3. Name any four kinds of عيوبات قافيه - تصرفات شاعري *

Wednesday, 17th December, 2 to 5 p.m.

PERSIAN. TRANSLATION.

I Translate into Persian:—

1. This gentleman's close observation of nature provided him with a fulness of information on many subjects which appeared surprising even to those who had devoted to them a special study. In passing through a country nothing escaped his attention—the trees, the crops, the birds, the farmer's stock;—in short, everything in nature afforded him an opportunity for making some striking observation, or propounding some ingenious theory. This rendered him a highly instructive and amusing companion at all times.

2 Clive was in a painfully anxious situation. He could place no confidence in the sincerity or in the courage of his confederate: and, whatever confidence he might place in his own military talents, and in the valour and discipline of his troops, it was no light thing to engage an army twenty times as numerous as his own. Before him lay a river over which it was easy to advance, but over which, if things went ill, not one of his little

band would ever return. On this occasion for the first and for the last time, his dauntless spirit, during a few hours, shrank from the fearful responsibility of making a decision.

3. On the next morning at break of day the streets of Koufa appeared all shrouded in black; the people hastened to the mosque in prodigious crowds, in black turbans and vestures, and with black banners floating above them. In due time Abu Salama appeared and, after reading the prayers, addressed the people at considerable length, but without much effect.

II. Translate into English:—

1. روز سه شنبه طرف عصر خدیو عصر منزل محمد شاه را بقدوم میمنت انتساب رشک بیت الشرف آفتاب ساختند - و شام آن روز دیدو رنگ فتنهٔ عجیب ریخت و نقش طرفه برانگیخت- تفصیل این اجمال آنکه در شب یکشنبه یازدهم بدون اینکه از جانب محمد شاه اشارهٔ یا از طرف معارف تحریکی واقع شود ولولهٔ فتنه و غلغلهٔ آشوب بلند گشته - جمعی از عوام و اوباش درمیان شهر با اهل اردو برخاش کرده به بعضی از جنود منصور که در اصل شهر نزول نموده بودند در آویخته در مراسم دست درازی کوتاهی نکردند - و چند نفراز لشکر ایرانی را به تیغ نافرمانی و خنجر نادانی ذبیحهٔ قربانی ساخته خون ایشان را حنای شب عید و خضاب دست اُمید نموده سر پنجهٔ دلیری را بمهمان کشی رنگین کردند - و از انجا بپاے تهور برسر فیلخانهٔ شاهی رفته فیلانرا متصرف گشتند - حکم والا صادر شد که جمعی ازدلیران درسر دروب محلات مانند خیل نجوم که پاسبان محلات مدارات فلکند تا صبح گاهان دیده از خواب بسته سیار وثابت قدم باشند و نگذارند که احدی از غازیان پا از منهج خود داری بیرون گذارد - تا فردا بدانچه مقرر گردد عمل نمایند - بنگام طلوع آفتاب خسرو بیهمال با هیئت خشمگین و صورت سهمگین سواریکران جهان پیما و خنجر گذاران نیزه دار و بهرام صولتان کیوان آثار هالهٔ بدر رکاب هلال آسا گشته مسجد میان بازار را بقدوم اقدس مسجود خاص و عام ساختند - و دران مکان بعد از تحقیق اینکه حرکات دوشینه از کدام محله و چه

جماعت صادر شده دلیران را فوج فوج به تنبیه آن گروه تعین و امر بقتل عام آن ضلالت فرمودند *

2. داني که چنگ و عود چه تقریر مي کنند *
پنهان خورید باده که تکفیر مي کنند *
جز قلب تیره هیچ نه نشد حاصل و هنوز *
باطل درین خیال که اکسیر مي کنند *
صد ملک دل به نیم نظر مي توان خرید *
خوبان در ین معامله تقصیر مي کنند *
ماه خورشید نمایش زپس پردهٔ زلف *
آفتابي است که درپیش سحابي دارد *
عارضش را بمثل ماه فلک نتوان خواند *
نسبت دوست بهر بے سر و پا نتوان کرد *
مشکل عشق نه در حوصلهٔ دانش ما است *
حل این نکته بدین فکر خطا نتوان کرد *
لاله ساغرگیرو نرگس مست و برما نام فسق *
داوری دارم بسے یارب کرا داور کنم *
گلبرگ را ز سنبل مشکین نقاب کن *
یعنے که رخ بپوش و جهاني خراب کن *
بکشا بعشوه نرگس مست خراب را *
وز اشک چشم نرگس رعنا پر آب کن *

3. (۱) سم اسب را قیار کن (۲) خراین سبزي فروش عرعر میکند (۳) یکصورت سر باز که با مفرغ ریخته اند سر راه ایستاده بود (۴) چفت و بند آن در بریجي است و میلش آهنین (۵) درین مرکب چند یدک است *

4. در فصل ز مستان که بهار مستان است دزدي بلانهٔ حقیري که خانهٔ فقیري بود در آمد و چندانکه جستجو کرد غیراز جبهٔ که حبهٔ ارزن نمي ارزید و فقیراز جوف آن چون بید از باد مي لرزید هیچ نیافت - ازحرص خویش وقناعت درویش زائدالوصف شرمسار شد - فقیر ازانجا که خوی درویشان و خصلت ایشان

است برخاست و جبهٔ خلقان را بردوش وي افگند و گفت مرا معذور دار که چيزي جزين دثار لائق نثار ندارم - قطعه

چه غم از بينوائي آنکس را * که کرم باشد و درم نبود
کرم بے درم ازان بهتر * که درم باشد و کرم نبود

WEDNESDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

URDU: TEXT-BOOKS AND GRAMMAR.

I. 1. الفاظ و فقرجات ذيل کے معنے هندوستاني مين لکهئے :—
تت پونجيا - مزارع - پانوڈی جانا - اخلاط فاسده - بيد هيا - نکيل - جي پانا - جي جلنا - اصول و فروع - کهٹائي - تداوي کرنا - دبڈهه - چشم - کهو - غاشيه خير خواهي کا اطاعت کے دوش پر اوڻهانا - بچي هونا *

2. الفاظ مرقومهٔ الذيل کن سے استعاره کئے جاتے هين ؟
نرگس - غنچه - شمشاد - هلال - شب - روز - بادام - پسته *

3. هر ايک لفظ ذيل کے دو دو معنے رقم کرو :—
سرت - پاٹ - چاشت - چله - لال - وصال - خط - ڈمره *

II. وزير کا تذکره رقم هو ؟

III. 1. اشعار مرقومهٔ الذيل کو با محاوره نثر مين لاو - اور نثر کا مضمون سليس عبارت مين مرقوم هو —

حيرت افزاي جهان جسم مصفا هوگيا *
چار جوهر مل کے اک آئينه پيدا هوگيا *
کس کي شمع رخ سے هي روشن چراغ آفتاب *
اندنون کچه آسمان پر هي دماغ آفتاب *
هنس کے بولا وه گل تر اين گل ديگر شگفت *
دانهٔ گوهر کف رنگين مين جب گلگون هوا *
کفش زرين سے ستارے جهڑتے هين وقت خرام *
سير ديکهو اب زمين پر کوکب سيار کي *
ديکهه او ناوک فگن جذب دل نخچير کو *
هي ٹههرنا مشکل اب ترکش مين تيري تير کو *

لکھے ہی حسن نے فار غخطي یہہ خط نہ سمجھہ *
جو تل نکلتے ہین مہرین گواہ کرتے ہین *
گہ کرے ہي برگ گل مرکب صبا کے واسطے
پا بزنجیر اسکو موج آب سے گاہہ کرے

2. چھٹوین بیت کي تقطیع کیجئے اور بحر بھي بتلائے ؟
3. تیسري بیت کي ترکیب کرو ؟
4. ابیات بالا مذکور مین کیا صنائع لفظي و معنوي ہین ؟

IV. سوالات مرقومۂ الذیل سے کسي چار کے جواب لکھو :—

1. کونسي تین چیزین بعد تین چیزون کے بحال نہین رہتي ہین ؟
2. گفتار و کردار مین دیادار کئی قسم کے ہین اور کونسے ؟
3. کونسے تین چیز سے فائدہ نہین اوٹھا سکتے ؟
4. علامت حماقت کی کتنے اور کیا ہین ؟
5. کونسے پانچ کام مین دانا لوگ بہت کوشش کرین تو معذور ہین ؟
6. بادشاہ کے لئے کونسے پانچ صفت ضرور ہین ؟
7. کونسے چھہ چیز باعث وبال سلطنت اور زوال ملک ہین ؟
8. چودہ وصیتین جو گنجنامۂ ہوشنگ مین مرقوم تھین کیا تھین

V. 1. ابیات ذیل کے تلمیحات کي تشریح رقم ہو :—

ذرا سے جرم پہ جھانکین کنوین فوشنون نے *
یہ آدمي ہین کیا کیا گناہ کرتے ہین *
کب ہمیشہ دیو کے قبضے مین انگشتر رہي *
حلقۂ گیسو جو دست غیر مین ہي عم نہین *

2. مرقومۂ الذیل حکایتون سے کیا نصیحت نکلتي ہی :—

حکایت مینڈک جو سانپ کي بانبھي کے پاس رہتا تھا ۔ ریچھہ اور باغبان *

VI لکھئے :—

1. پانچ ضرب الامثال اور انکا محل استعمال *
2. آفرینش آدم کے چار ستون کي تفصیل *

3 فرق عاقل - نیم عاقل اور نادان مین *

4. برزویہ - دانشلیم - بید بای - غانم - سالم - اور شنزبہ کا مختصر حال *

5. جمشید بادشاہ نے بعین دربانان - ترتیب تخت اور آئین جہانداري کس سے اختیار کیا ؟

6. راي دانشلیم بید باي حکیم سے کسطرح اور کس مقام مین ملاقات کیا ؟

VII. 1 ہر ایک دو مین کیا فرق ہی :—

اگر و اگرچہ - ماضئ نمائي و شرطي - افعال تامہ و ناقصہ - مصدر و حاصل مصدر - لف و نشر و تقسیم *

2. مصدر فعل متعدي تذکیر و تانیث اور وحدت و جمعیت مین کبھي تابع مفعول ہوتا ہي - پس اسکے تابع ہونے کي کونسي صورتین ہین *

3. یہہ زوائد کہان آتے ہین اور کیا فائدہ بخشتے ہین ؟

ہ - و - ٹ - وا - ري - لو - ن *

4. وہ کونسا فعل ہی جسکا ایک ہي صیغہ جمیع صورتون مین مشترک ہي ؟

5. فعل سوائے قرینے کے کونسے مقامون مین محذوف رہتا ہي ؟

VIII 1. واحد امر حاضر کے آخر بمقام تعظیم کونسے الفاظ آتے ہین ؟

2. استعمال علامت فاعل یا مفعول کس بات کا مانع ہوتا ہي ؟

3. ان الفاظ مین کونسے مذکر بولا جاتے ہین اور کونسے مونث :--

فاختہ - ندا - ترشح - کفگیر - بخت - وادي - بوستان - چلن - شمع - تصرف - استعداد - گلاس *

4. اسم کي جمع حالت مفعولي اور حالت ندا مین کسطرح ہوتي ہي ؟

IX. مفعول - بدل - اصل جملہ اور اسم مجاز کے اقسام معہ نظائر لکھئے *

WEDNESDAY, 17TH DECEMBER, 2 TO 5 P.M.
URDU: TRANSLATION AND COMPOSITION.

I. Translate into Urdu :—

1. Who indeed can watch the ceaseless observation and inquiry and inference going on in a child's mind, or listen to its acute remarks on matters within the range of its faculties, without perceiving that these powers it manifests, if brought to bear systematically upon studies within the same range, would rapidly master them without help? The need for perpetual telling results from our stupidity, not from the child's. We drag it away from the facts in which it is interested, and which it is actively assimilating of itself. We put before it facts far too complex for it to understand; and therefore distasteful to it. Finding that it will not voluntarily acquire these facts, we thrust them into its mind by force and threats and punishment. By thus denying the knowledge it craves, and cramming it with knowledge it cannot digest, we produce a morbid state of its faculties, and a consequent disgust for knowledge in general.

2. It is impossible, from the nature and circumstances of human-kind, that the multitude should be philosophers, or that they should know things in their causes. We see every day that the rules alone are sufficient for the shopkeeper to state his account, the sailor to navigate his ship, or the carpenter to measure his timber; none of whom understand the theory, that is to say, the grounds and reasons either of arithmetic or geometry. Even so in moral, political, and religious matters, it is manifest that the rules and opinions early imbibed at the first dawn of understanding, and without the least glimpse of science, may yet produce effects, and be very useful to the world; and that, in fact, they are so, will be very visible to every one who shall observe what passeth round about him.

II. Translate into English :—

(۱) خط کے مضمون دریافت کرنے کے بعد غانم نے سالم کي طرف متوجہ ہوکر کہا کہ ای بھائي آو تو پای ہمت سے اس خطرناک میدان کو طي کریں - ع - * یا تن رسد بجانان یا جان زتن برآید * سالم نے کہا ای یار عزیزصرف ایک نوشتے پر جو لکھنے والا اُسکا معلوم نہیں ہي اس خطر ناک راہ مین چلنا اور ایک فائدۂ موہوم کے خیال سے اپنے تئین ایسي بڑي آفت مین ڈالنا نشان بیوقوفیت کا ہي - کوئي دانا زہر کو سمجھکر اور تریاک کو جانکر نہ کھاوے - اور کوئي عقلمند بالفعل کي محنت کو آئندہ کي راحت پر قبول نکرے - غانم نے کہا ای یار ہوس

آسایش کي دني اور پست همت کا کام هي - اور راه خطر مین چلنا اور کوشش کرني نشان حصول دولت و عزت کا هي - بلند همت صرف گوشے اور ایک لقمے کھانے پر قانع نهووے - جب تک کسي درجهٔ عالي کو نه پهنچے چین سے نه بیٹھے - گل مطلب بغیر خار محنت کے چن نه سکے اور دروازه مقصد کے گنج کا اذیت کے کنجي کے سوا کھل نه سکے - میرے تئین همت کھینچکر پهاڑ پر پهنچاویگي اور مین فنا کے گرداب سے نه ڈرونگا *

(۲) صدمه فرقت کا اوٹھانا نهین اچها *
ای بیخبري آپ مین آنا نهین اچها *
کیا غیرونکو قتل اسنے موے هم رشک کے مارے *
اجل بهي دوستو آئي نصیب دشمنان هوکر *
جاے ٹھهري استخوان پر جب لگائي تونے تیغ *
کیون نه ای قاتل هما کهنے تري شمشیر کو *
ایک ذرے کو نهین هوتي هي جنبش بے حکم *
بت جو پهر جاتے هین الله پهرا هوتا هي *
آنکهین کهلي هوي هین عجب خواب ناز هی *
فتنه تو سو گیا هي در فتنه ناز هي *
کیا کیا نه همکو اپنی عبادت پر ناز تها *
بس دم نکل گیا جو سنا بے نیاز هي *
ایک عالم نے جبهه سائي کي *
ای بتو تم نے بهي خدائي کي *
مي دے که نه دے نادهٔ اطهر تو نهین هی *
کچهه پیر مغان ساقي کوثر تو نهین هي *

(۳) نقاش و خاتم بند سواے ایکے اور بهي کاریگر وهان کے سیپ کے نقشي قلمدان اور صندوقچے نهایت خوش اسلوب و خوش قطع بسهولت بناتے هین - اپني هنرمندي و دست کاري کي طرزین دکهاتے هین - اور کمخواب و زربفت و خارا و مخمل و زرباني چیرے پٹکے وهانکے عدیم المثل هین - ان کاریگرون چهت کسکي تاب و طاقت جو اس قماش کا وصلچه بن سکے - مگر

حیرت سے ناچار ہوکر ابنا سر دہن سکے - سوائے اسکے نقلید بھی
اُن پرختم ہی - کیونکہ روم و فرنگ و ایران مین جو کپڑا کر
اعلی ہی ہے اسکے مقابل ہن دیتے ہین سرمو فرق نہین برتنا -
تلوار بھی و یانکی دم خم مین مغربی تلوار سے مقابلہ کرتی ہی *

III Write an essay in Urdu on "*the draught and pack animals of the world*" or on "*the government of the tongue*"

دنیا کے بارکش حیوانات یا حفظ لسان کا بیان بزبان اردو رقم ہو*

WEDNESDAY, 17TH DECEMBER, 10 A.M TO 1 P.M.
TAMIL: TEXT-BOOKS AND GRAMMAR.

I. 1 நாலடியார் பாடிய சமணமதத்தாகளின் முக்கிய மான கொளகையொனறை யெடுத்துக் கூறி அது நீர் படித்த பாகத்துள் இவ்வாறு விளங்குகினறதெனறு காடுக

2. நைடதம பாடினவா பெயரு ம காலமும அவரால் செய்யபபடட நூல்களில் வேறெனறின பெயரும் கூறுக அவர் பாண்டியர் குலத்து வைதிருந்த அபிமானம நீர் படித்த நைடத பாகத்துள எங்ஙனம் விளங்குகினறது ?

3. பாரதம் எனனும பெயருக்கும் பாண்டவர் சரித்திரத்திற்கும எனன சம்பந்தம் ? இச்சரித்திரம ஆதியில் யாரால் யாருக்குச் சொல்லபபட்டது ? தமிழில் பாரதம பாடினவா யார் யார் ?

II 1 தவலருந் தொல்கேள்வித் தன்மை யுடையார்
இகலில ரெஃகுடையார் தமமுட்குழீஇ
நகலி னினிதாயிற் காண்பா மகல்வானத்
துமப ருறைவார் பதி.

2. உடமபிட்டு-நினறுவீழ்ந் தக்க துடைதது.

3. குழக்கனறு-வல்லதாந் தாய்நாடிக் கோடலே.

4. கரும்பார் கழனியுட்சேர்வர்.

5. சிறுகாலைப் பட்ட பொறியும.

6. காலாடு போழ்தில். (a) இவற்றிற்குப் பதவுரையெழுதுக. (b) அளபெடைக்கு இலக்கணமென்ன? 'குழீஇ' என்பது என்ன அளபெடை? (c) 'நகலின,' இது எனன வேற்றுமை? எனன பொருளில வந்தது ? (d) காண்பாம், காண்பேம், காண்பல், காண்குதும, இவற்றின் அர்த்தபேதமெனன? (e) 'வீழ்ந்தக்கதுடைத்து,' இதில் எனன இலக்கணவிசேஷம்? (f) 'கோடலே,' இதற்குப பகுபத முடிவு கூறுக.

III. கலிகெழு மூரசுகண கறங்கு மோதையாற்
பொலனமுக டெடைந்துமேற் போயிற்றில்லேயேல

அலர்தலே விசும்பினி லடங்க லாவதே
நிலமிசை யெழுந்துமே னீமிர்ந்த தூளியே.

(1) இதற்குப் பொழிப்புரையெழுதி இதிலுள்ள அலங்காரம் இன்னதெனறு சொல்லுக. (2) பெயரெச்சம் எவ்வகைப்பெயர்களேக்கொண்டு முடியும்? 'கறங்கும்' என்றது எவ்வகைப் பெயராக்கொண்டுமுடிகின்றது? (3) வினைமுதலே மாத்திரங் கொண்டு முடியும் வினையெச்ச வாய்பாடுகளெவை? 'உடைந்து,' என்றது எப்படிமுடிகின்றது? இம்முடிபிற்குச் சூத்திரமென்ன? (4) இப்பாடலிலுள்ள ஏகாரங்களுக்கு என்னபொருள்!

IV. நடந்த நாயகன் கோலமாய் வேலைசூழ் ஞாலம்
இடந்த நாளிடை யதுவழி யாகவந் தெழுந்து
படர்ந்த பாதல கங்கையைப் படர்மதில் சூழ்ந்து
கிடந்ததாமெனச் சிறந்தது தாழ்புனற் கிடங்கு. .

(1) இதற்குக் கருத்துரை யெழுதுக. (2) இதிலுள்ள உவமானவுவமேயங்களே விரித்துக்காட்டுக. (3) இதிற்குறிக்கப்படுங் கதையென்ன?

V. 1. மடந்தை பொற்றிரு மேகலே மணியுகவே மாசறத்தி கழுமேகாந்த இடந்தனிற்புரிந்தே நானயர்ந்திருப்ப வெடுக்கவோ கோக்கவோ வென்றான். இதிற் குறிக்கப்படுங் கதையென்ன? இது யாரால் யாருக்குச் சொல்லப்பட்டது? அத்தருணத்தில் நடந்த சம்பாஷணையைச் சுருக்கிப் 10 வரிக்குமேற்படாமலெழுதுக.

2. முன்புவனத்திடை வந்துகலிக்கிறை மொய்ம்புணரப்புகல்போ தென்புமலைக்குறு பண்ணையடித்தன ரெஞ்சிய பப்பரரே. இதிலுள்ள கதையெனன? பப்பரர் எந்தத் தன்மையில் மலைக்குறுபண்ணை யடித்தனர்?

VI. (1) 'தம்மை யிகழ்வாரைத் தாமவரின் முன்னிகழ்க.—இது பொறையுடைமைச்குப் பொருந்துமா? இதின் கருத்தென்ன? (2) 'புடவிமேல் மிதித்திலை புரவிவெள்ளமே.' ஏன் மிதித்திலை? பின் எங்ஙனஞ் சென்றன? (3) 'சுருதியென்னுமவெஞ்சாபமேலும்புகைதொடுத்து'—இதின் பொருளென்ன? இதிலென்ன சொற் சாதுரியம் தோற்றுகின்றது. (4) 'அரவுயர்த்தோன் கொடுமையினு முரசுயர்த்தோயுனதருளக் கஞ்சினேனே' இதுயார் எந்தச் சந்தர்ப்பத்தில் சொன்னது? (5) 'அன்னையானவருமிருவராமுதலளித்ததந்தையர்களேவராம்'—அன்னையர் இருவர் யார்? தந்தையர் ஐவர் யார்? யார் யாருக்குத் தந்தை?

VII. (1) இவ்விதநூல்தான் கற்கவேண்டுமென்று நாலடியாரில் சொல்லப்பட்டிருக்கும் வெண்பாக்களிலொன்று எழுதுக. (2) கலி நளனே உடனே தொடராமலிருந்ததற்குக் காரணங் கூறும் கவிகளுள் ஒன்று சொல்லுக.

VIII. கீழ்வரும் புணர்ச்சிகளுக்கு விதி கூறுக :—காயா + பூ =காயாமபூ, காயாபபூ; ஆறு + மீன=அறுமீன, ஆற்றுமீன.

IX. (1) கிருஷ்ணபகவான தூதுசென்ற காலத்தில்பாண்டவர்க் கனுகூலமாகச் செய்த சங்கதிகளுள் ஒன்றைச் சொல்லி அதில் சாதித்ததந்திரம் இனனதெனறு 10வரிகளுள் எழுதுக. (2) அரிச்சந்திரன விசுவாமித்திரருக்குக் கடன்பட்ட காரணமென்ன? மனைவி மக்களை விற்றுமு ஏன அக்கடன் நிவிர்த்தியாகவில்லை?

X. 1. உட்கு, உறுவர், நசை, நாழிலாடு, பாறு, சிறை, செதும்பு, அழுவம, இவற்றுகசர்த்தமென்ன?

2. வரலாறு, இடையூறு, யாக்கை, எச்சம, இவற்றுக்கு உற்பத்தியர்த்தமெனன?

WEDNESDAY 17TH DECEMBER, 2 TO 5 P.M.

TAMIL: TRANSLATION AND COMPOSITION.

I. Translate into Tamil: — [See Urdu Translation paper, page xci].

II. Translate into English:—

1. இம்மை பயக்குமா லீயக் குறைவினரூல்
தமை விளக்குமாற் ரூழுளராக் கேடின்ரூல்
எம்மை யுலகத்து ம யாங்காணேங் கல்விபோல்
மம்ம ரறுக்கு மருந்து.

2. காலெலாமலர்ந்தமுல்லைகளமீதெழுந்ததென்ன
வானெலாம்வயங்குதாரை நிரைநிரைமலர்ந்துதோன்ற
வேனிலானவிழவினவைத்தவெள் ளிவெண்குமபமெனனத்
தூநிலாமதியம்வந்து குனதிசைத்தோன்றிற்ற மா.

3. அனனே யரமமெலோதித் தோழியை யருளிஞேகி
உன்னினுமிவண்மேற்காதலுளமெனவுரைக்கிலேமால்
என்னினுமின றுதொட்டுமின னுயிர்த்தோழியல்லை
மின்னனுட்கனனீயே வேண்டுவ புரிதியென்ரூர்.

4. காலாடு போழ்திற் கழிகிளஞர் வானத்து
மேலாடு மீனிற் பலராவர் - ஏலா
இடரொருவ ருற்றக்கா லீர்ங்குன்ற நாட
தொடர்புடையே மென்பார் சிலர்.

5. இவ்வண்ணம சினனுள் கழிந்தபின் வசிட்டமுனிவர் எழுந்தருள மன்னவன் எழுந்து எதிர்கொண்டு உபசாரஞ் செய்து மணி ஆசனத்தில் இருத்தி மகிழ்ந்திருக்கையில் ஆங்கு இருந்த சுயஜனுமுனிவா வசிட்டமாமுனிவனை நோக்கி இவ்வரிச்சந்திரன் மகாபுருஷன இச்சந்திரமதியும் மகா பதிவிரதை லோகிதாசியனும் நிரபராதி, இவர்களுகு இத்துனபம் நேர்ந்தது ஏன்? இயமன் ஏன் புலையனனை? சனி

விசுவாமித்திரர் கட்டளைக்குப் பயந்து காலகௌசிகனை தேன் என்று வினவ, வசிட்டமாமுனிவர் சொல்லத் தொடங்கினர்: முன் நீலலோகிதன் என்னும் அரசன் மூவுலகாட்சி தனக்கு வேண்டும் என்று விசுவாமித்திர முனிவரைப் பிரார்த்திக்க அவர் அரசனை நோக்கி நீ ஏழு ஜனனம் தவம் முயலவாவது வேண்டும், அன்றி ஓர் ஜனனத்தில் மிகவும் துன்பம் அனுபவிக்கவாவது வேண்டும், அஃதன்றி மூவுலகாட்சி நேராது என்று புகல, அரசன் நும்மாணைப்படி ஒரு ஜனனத்தில் துன்பமெல்லாம் நுகரநேர்ந்தேன் என்று கூற, அவ்வண்ணமே ஆகுக என்றனர்; அவனே அரிச்சந்திரனாய்ப் பிறந்தான், ஆதலால் விசுவாமித்திரர் மிகத் துயரம் எல்லாம் நுகர்வித்து மூவுலகாட்சி அனுக்கிரகம் செய்தனர்.

6. கல்வி கரையில, கற்பவர் நாள்சில, இளமை நீரிற் குமிழிபோலும், யாக்கை நீரில் எழுத்துப்போலும்; விளையும் பயிர் முளையிலும், நிழலின் அருமை வெயிலிலும் தெரியும்; காற்றுள்ளபோதே தூற்றிக்கொள்.

ஆபத்துக்குப் பாவமில்லை, வலிமைக்கு வழக்கில்லையென்று சன்மார்க்கம் தவறி நடவாது இளமையில் அறநெறியைச் சார்ந்தொழுகு.

III. Write an essay in Tamil on "*the draught and pack animals of the world,*" or on "*the government of the tongue.*" உலகத்திலுள்ள இழுவை (வண்டி முதலியவற்றை இழுத்தல்) மிருகங்களையும் பொதி மிருகங்களையும்பற்றியாவது நாவடக்கலைப்பற்றியாவது தமிழில் ஒரு வியாசம் எழுதுக.

WEDNESDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

TELUGU: TEXT-BOOKS AND GRAMMAR.

I. 1. ఈ క్రింది పద్యములకు దండాన్వయము వ్రాయుఁడు:—

(a) ఎవ్వరికైన జన్మమున హృచ్ఛ్రమ లేక సుఖాసుఖంబులన్
నవ్వుచు నెవ్వ కేచెలువునన్ సతతంబును రాగలబ్ధితో
జవ్వన మూడి వార్ధకము సాఁగఁగ స్నేహము మెండుకొన్నదా
మవ్వపుకోర్కి నట్టియతిమానుషశాలికి మంగళం బగున్.

(b) భూరినిజద్యుతితోడఁ బృ। థారణిసంభూతపాండవాగ్నిత్రితయం
బారఁగ నన్మత్కులదురి। తోరుతరారణ్యదాహ మున్నతిఁ జేయున్.

(c) ప్రమదాపాది పయఃప్రపూర్ణ మిది గోపద్మాకరం బంచుఁ ద
త్కమలామోదసుగంధమారుతము వీఁకన్ ము న్నెఱింగించినన్
రమణం బిల్చె సరోవరం బనిలజున్ రాజీవరాజీపత
త్సమదాళిప్రజచక్రవాకబకహంసక్రౌంచనాదంబులన్.

2. మొదటి రెండుపద్యములు ఏ సందర్భమున నెవరిచేఁ జెప్పఁబడినవి ? మిగిలినపద్యమునందలియలంకారములఁ బేరొక్కని వానిలక్షణములఁ జెప్పుఁడు.

3. (a) లో మొదటిపాదమందును (b), (c), లలో రెండవపాదములయందును గణవిభజనము చేసి యతిస్థానములఁ జూపి మైత్రి వేనికో తెల్పుఁడు.

II. 1. ఈ దిగువ గీట్లుగలవానికి అర్థములు తేటపడునట్లు టిప్పణములు వ్రాయుఁడు. రాక్షసకుల ధూమకేతు; శోకమాత్ర ద్వితీయుండు; ప్రియాదిదృక్షులు; ప్రజ్ఞాచక్షుండు, బద్ధ గోధాంగుళిత్రాణులు; వశానిమిత్తక్రుద్ధగంధసింధురంబులు, దుర్బలా శ్వాసక్షేపనిబంధంబులు; తొమ్మునఁ జేయిడి నిద్రవ్రాయె; యీవరాజ్యయుతుఁడయ్యును బెంపున సార్వభౌముఁడై.

2. ఈ క్రిందిపదములకర్థమేమి ?—ఊఱుఁడు, వాలుమెకము, ప్రతోదము, తొప్పట, ఉల్లసంబులు, కులపాంసనులు, పురుషాదుండు, రోదోంతరము, వడముడి, తొక్కుపలుకులు, ఎల్లిదము, మల్లగఱచుకొను, కింవదంతి, వీరమాత, వెల్లిపాడుచు, పాదపము.

III. 1. 'మరుచ్చలితోచ్చపీచినిస్వనముఖరాబ్ధివేష్టితవిశాలమహీవలయాంతరంబు'—దీనికి విగ్రహము వ్రాసి సమాసనామముల స్పష్టముగాఁ దెల్పునది.

2. ఈ క్రిందివానిలో క్రింద గీఁతలు గీయఁబడినచోట్ల రూపములెట్లు ఏర్పడినవో సహేతుకముగ వ్రాయుఁడు :—ఇట్టి దివ్యతేజంబున వాఁడు; నెఱ్ఱి; చూపఱు; తుట్ట తుద; భగవానుఁడు; నాఁపబండ; యశోర్థులు; పోవుగాతమని, శ్రమంపడియున్న; మొదలింటంగోలె; సర్వకామములకు రోసి.—రూపాంతరములున్నచోట్ల వానివ్రాయందగు.

IV. 1. ఈక్రిందివి యే సందర్భములోవచ్చినవో వ్రాయుఁడు.—(a) వంటయిల్కుండేలుసొచ్చె (b) వెలుఁగును వెలుఁగార్చుననఁగవినవేయెందుఁ.

2 ఈ క్రింది ఎద్యములో ప్రతిపాదమును పూర్తిచేయునది.

జగములఁ బ్రోవఁగాఁ బుడమి జన్మముదాల్చిన.....

నిగమసమూహరక్షణకు నిల్చినక్షత్రియ.....
సుగుణసుపౌరుషంబులును జొక్కపుమేను వహించు...
జగదతిపుణ్యకార్యముల సంచయ మై వెలుఁగొందు.....

V. (1) 'ఆత్మవధ' విషయమై ఉత్తరరామచరిత్రయందు జనకునిచేతను భారతమున విప్రునిచేతను ఏమి చెప్పఁబడినది? ఈ విప్రుఁ డాత్మహత్య కెట్లు ఒప్పుకొనెను? (2) శ్రోత్రియులైనయభ్యాగతులకు మాంసము పెట్టువిషయమై ఏమి చెప్పఁడినది? (3) జృంభకాస్త్రముఁవిషయమై మీ రెఱింగినది వ్రాయుఁడు. (4) బకాసురుని కాహారముగా విప్రగృహములో నెకరు పోవలసివచ్చినపుడు విప్రుఁడును, భార్యయు, కూఁతురు, వీరిలో నెక్కకరును తక్కినవారు వలదు, తానె పోవలయు, అనుచుఁ జెప్పిన హేతువులను సంగ్రహముగా వ్రాయుఁడు. (5) లవకుమార్కుఁడు —"వృద్ధులు వారు వారికథ వేఱె విమర్శలుచేయ గిట్టదౌన్" అని చెప్పియు రఘునాయకచరితమునఁ గొన్నిలోపములఁ జూపె.—ఏ కార్యములవలన నా లోపములు గలిగెనో స్పష్టముగఁ దెల్పునది.

VI. దశరూపకము లన నెవ్వి? రూపకభేదములు వేనివలనఁ గల్గు? ఉత్తరరామచరిత్రము వానిలో నెయ్యది యనం దగు? ఇందు ప్రధానరస మేది? దీని సంస్కృతమున వ్రాసిన కవి యెవరు? ఇంగ్లీషునాటకమునకు సాధారణముగా నెన్నియంకము లుండును? ఉత్తరరామచరిత్రయం దెన్నిగలవు? ఇందు నాయకుఁడెట్టివాఁడు? ఏల?

VII. భారతమున మీరు చదివినభాగ మెవరువ్రాసిరి? అతఁడేదేశపు వాఁడు? ఎప్పటివాఁడు? అతఁడుండినకాలము నిర్ధారణచేయుటకు సాధనము లేవికలవో తెలిపి, ఆతఁడిప్పటికి ఇన్నిసంవత్సరముల క్రిందటి వాఁడని స్థాపింపుఁడు.

VIII. (1) తిక్కన, ఎఱ్ఱాప్రగడ, నాచనసోముఁడు—వీరల బిరుదాంకము లేవి? వీరు వ్రాసిన గ్రంథములెవ్వి? (2) భాస్కరు లిద్ద ఱున్నట్లు గన్పట్టు. వీరెవరు? ఏ కాలపువారు వీరిరువురిలోఁ బ్రధానుఁ డెవఁడు. (3) మారన, శ్రీనాథుఁడు, — వీరి విషయమై మీ రెఱింగినది సంగ్రహముగ వ్రాయుఁడు.

IX. ఈ క్రిందివి యేగ్రంథములలోనివి? ఆ గ్రంథకర్త లెవరు?

1. చెప్పినరీతిఁగాని మఱిచెప్పకుమన్న విరోధిశాస్త్రముల్

విప్పకు మన్నదుష్ట మగు విష్ణుచరిత్రకథార్థజాలముల్.

2. పొట్టకు లేక తిత్రైదవు పుణ్యగుణంబులరాశిఁగాశికఁ.

3. చూసినచీర గట్టి యవమానమొనంగఁగ నేడు రాఁగనా
కానలనాటివారి కనకాంగిని జూచితి నీళ్లరేవునఁ.

4. రాయలగెచ్చినజ్జనగరంబునఁ బట్టము కట్టుకో వడిఁ
రాయకళింగగంగుఁ గవిరాజు భయంకరమూర్తి చూడఁ దాఁ
బోయినమీనమానమునఁ బున్నమ పోయినషష్ఠినాటికిఁ.

WEDNESDAY, 17TH DECEMBER, 2 TO 5 P.M.
TELUGU: TRANSLATION AND COMPOSITION.

I. Translate into Telugu:—[See Urdu Translation paper, page xci].
II. Translate into English:—

1. కురువృద్ధు ల్గురువృద్ధబాంధవు లనేకు ల్సూచు చుండ న్మదో
ద్ధరుఁ డై ద్రౌపది నట్లు చేసినఖలుఁ దుశ్శాసనున్ లోకభీ
కరలీల న్వధియించి తద్విపులవక్షశ్శైలరక్తౌఘని
ర్ఝర మూర్వీపతి చూచు చుండ నని నాస్వాదింతు నుగ్రాకృతిన్.

2. చనదు మహద్విరోధ మని చక్కటి చెప్పిన నింతతప్పునఁ
గనలితి నీతిశూన్యులకుఁ గార్యము లేటికిఁ దోఁచు నిప్పు వే
యును బనిలేదు నీవలన నెప్పనినావచనంబు లెల్ల నీ
వనిమొన రాముచేఁ బడినయప్పు డెటిఁగెదుగాక పోయెదన్.

3. పూర్వపుఁ జేటిపాయ లిటు బొత్తిగ నెండుచు లంకవెట్టఁగా
సర్వమహీరుహంబులను సాంద్రత గోల్పడి నూటి కొక్కటై
నేర్వఁ దరంబె యీవనము నేఁటిది నాఁటిది యంచుఁ గాని యీ
పర్వత మున్న హేతువున బాగుగ నే నిది గుర్తుపట్టితిన్.

4. ఉత్తమక్షత్రియప్రవరోపయోగ్యమైనయంగరాజ్యంబు నీకర్ణమగునె
మంత్రపూతమై గురుయజమానభక్ష్య మగుపురోడాశ మది కుక్క—
కర్ణమగునె.

5. వీరెవ్వరయ్య ద్రుపదమహారాజులె యిట్లు కృపణు లయి పట్టువడన్
వీరికి వలసెనె యిపుడు మహారాజ్యమదాంధకార మది వాసెనొకో.

6 ఇచ్చునది ధనము పాత్రున కచ్చుగ నెరు వేడకుండునది యభిముఖులై
వచ్చినయాశార్థుల వృథపుచ్చక చేయునది సర్వభూతప్రీతిఁ.

III. Write an essay in Telugu on "*the draught and pack animals of the world*," or on "*the government of the tongue*."

"లోకములోని శకటాదులకు వాహనములయిన మృగములను బరువులమోయు మృగములను" గురించిగాని "లేక నాలుకను స్వాధీన పఱుచుట" ను గురించిగాని తెలుఁగుభాషలో ఒక వ్యాసమువ్రాయునది.

WEDNESDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

KANARESE: TEXT-BOOKS AND GRAMMAR.

I. (1) ಜೈಮಿನಿಭಾರತವು ಪುರಾತನ ಗ್ರಂಥವೆಂದು ಕೆಲವರೂ, ನವೀನ ಗ್ರಂಥವೆಂದು ಕೆಲವರೂ, ಹೇಳುವರು. ಪುರಾತನವಾದರೆ ಕ್ರಿ॥ ಶಕೆಯ ಯಾವ ಕಾಲದಲ್ಲಿ, ನವೀನವಾದರೆ ಯಾವ ಕಾಲದಲ್ಲಿ ಇದು ಹುಟ್ಟಿದಹಾಗೆ ನಿರ್ಧರಿಸುತ್ತಾರೆ? ಲಕ್ಷ್ಮೀಶನು ನವೀನ ಕವಿಯೆಂದು ಹೇಳತಕ್ಕ ವರಿಗೆ ಸಾಧನಗಳೇನು? (2) ಲಕ್ಷ್ಮೀಶನು ಇಟ್ಟುಕೊಂಡಂಥಾ "ಕರ್ಣಾಟಕವಿ ಜೊತವನಜೈತ್ರ" ಎಂಬ ಬಿರುದಿಗೆ ಅರ್ಥವೇನು?

II. (1) ಬೆನ್ನಬಸವಪುರಾಣವನ್ನು ಬರೆದ ಕವಿ ಯಾರು? ಆತನ ಮತ ಯಾವುದು? (2) ಈ ದೇಶದ ಯಾವ ಪುರಾತನರಾಜರು ವಿಶೇಷವಾಗಿ ಶೈವಭಕ್ತಿಯುಳ್ಳವರೆಂದು ಬೆನ್ನಬಸವ ಪುರಾಣದಿಂದ ವ್ಯಕ್ತವಾಗುವುದು? ಈ ಧೊರೆಗಳ ರಾಜ್ಯ ಎಲ್ಲಿನವರಿಗೆ ವಿಸ್ತರಿಸಿತ್ತು? (3) ಕಣ್ಣಪ್ಪನ ಕಥೆಯನ್ನು ಸಂಕ್ಷೇಪವಾಗಿ ಬರೆಯಿರಿ.

III. (1) ಕವಿಗಳು ಆತ್ಮಸ್ತುತಿಯನ್ನು ಮಾಡಿ ಕೊಳ್ಳುವುದಕ್ಕೆ ನಾಟಕದಲ್ಲಿ ಅವಕಾಶ ಕಡಮೆ; ಇದಕ್ಕೆ ಕಾರಣವೇನು? ಕವಿಯ ಆತ್ಮಪ್ರಶಂಸೆಗೆ ನಾಟಕದ ಯಾವ ಭಾಗದಲ್ಲಿ ಆಸ್ಪದ ಸ್ವಲ್ಪವಿದೆ? (2) ನಾಗಾನಂದನಾಟಕದ ಕಥೆಯು ಇಂಥಾ ದೇಶದಲ್ಲಿ ಜರಗಿತೆಂಬುವುದಕ್ಕೆ ಪ್ರತ್ಯೇಕವಾದಮೂರು ಸೂಚನೆಗಳಿವೆ; ಅವು ಯಾವವು? ಯಾವ ಪಾತ್ರಗಳ ಬಾಯಲ್ಲಿ ಹೊರಡುವವು? ಇವುಗಳಿಂದ ಯಾವ ದೇಶವೆಂದು ನಿರ್ಧರಿಸಬಹುದು? (3) ನಾಟಕದಲ್ಲಿ ವಿಷಯೈಕ್ಯ (unity of action) ಅಗತ್ಯವಾಗಿರಬೇಕೆಂದು ಇಂಗ್ಲಿಷ್ ಲಾಕ್ಷಣಿಕರು ಹೇಳುವರು. ಈ ನಾಗಾನಂದನಾಟಕದಲ್ಲಿ ಈ ಗುಣ ಇದೆಯೇ ಇಲ್ಲವೆ? ಸಕಾರಣವಾಗಿ ಉತ್ತರವನ್ನು ಬರೆಯಿರಿ.

IV. (1) ಪರೋಪಕಾರ ಬುದ್ಧಿಯು ಜೀಮೂತವಾಹನನಲ್ಲಿ ಮೊದಲು ಹ್ಯಾಗೆ ಕಾಣಿಸಿಕೊಂಡು ತರುವಾಯ ಹ್ಯಾಗೆ ವೃದ್ಧಿಯಾಗಿ ಪರಿಣಮಿಸಿತು: ಈ ವಿಷಯವನ್ನು ಕುರಿತು ನಾಯಕನ ಗುಣವನ್ನು ಚೆನ್ನಾಗಿ

ತೋರಿಸುವ ಹಾಗೆ ಒಂದು ಲೇಖನವನ್ನು ಬರೆದು, ಈ ಪಾತ್ರವು ಆಗಾಗ್ಯೆ ಆಡುವ ಮಾತುಗಳನ್ನೂ ಮಾಡುವ ಕೆಲಸಗಳನ್ನೂ ಆಯಾಸ್ಥಳಗಳಲ್ಲಿ ಕೈಲಾದ ಮಟ್ಟಿಗೂ ಸೂಚಿಸುವುದು. (2) ಜೈಮಿನಿ ಭಾರತದ ನೀವು ಓದಿರುವ ಭಾಗದಲ್ಲಿ ಕಂಡುಬರುವ ಮಟ್ಟಿಗೆ ರುಕ್ಮಿಣಿಯ ಗುಣಕ್ಕೂ ಸತ್ಯಭಾಮೆಯ ಗುಣಕ್ಕೂ ಇರತಕ್ಕ ತಾರತಮ್ಯಗಳನ್ನು ತೋರಿಸುವ ಹಾಗೆ ಒಂದು ಲೇಖನವನ್ನು ಬರೆಯುವುದು.

V. ಈ ಕೆಳಗಿನ ಪದ್ಯಗಳಿಗೆ ಸರಿಯಾದ ಅರ್ಥವನ್ನು ಬರೆಯುವುದು (ಪ್ರತಿಪದಾರ್ಥವೂ ವಿವರವಾದ ವ್ಯಾಖ್ಯಾನವೂ ಕೂಡದು) :—(1) ದೇವ ನೀಂ ಪದ್ಮನಿಗೆ ಪಳವನಾರೋಪಿಸುವು । ದಾವ ಸಮ್ಮತ ರಾಜಹಂಸ ಪುನ್ನಾಗ ಮಧುಪಾವಳಿಯೆನೋವಲಾಗದೆ ಮಾತೆ ಮಕ್ಕಳೊಡಗೂಡಿ ರ್ದೊಡೇಂ ಧರೆಯೊಳು ॥ ಜೀವನಂ ನಿಂದೊಡಾದುದು ಪಂಕಮಲ್ಲಿತಾ । ನಾವಿರ್ಬವಿಸಿದೊಡೇಂ ಕೃಷ್ಣ ಹೃದಯಕೆ ದೋಷ । ಮಾವುಡಾಣ್ಮಂಗೆ ನಡನಡುಗಿದೊಡೆ ಶಂಚಲೆಯೆನಾವರಿಯೆವಿದನೆಂದಳು ॥ (2) ಸುಂದರಿ ನಿನ್ನಯಾಸ್ಯಮಿದು ಭಾಸ್ಕರಬೀಧಿತಿಪಾತಬಂಸಮಂ । ತೊಂದುತೆ ಪಾಟಲ ಪ್ರಭೆಯೆನೋರಣದಿಂ ಪರಿತಪ್ಪ ಪಲ್ಲದಿರ್ । ಸಂದಿರೆ ಕೇಸರಂ ತಳೆಯು ತಿಂತಬುಜಕ್ಕೆ ಸಮಾನವಾದೊಡಂ । ಸಂದಯವಿಲ್ಲದಲ್ಲಿ ಮಧುವೀಂಟುತೆ ತುಂಬಿಯೆದೇಕೆ ಕಾಣದಾ ॥ (3) ಲೋಕದೊಳೆಲ್ಲಾ ಕೊಳೆಗ । ಳ್ಗಾಕರ ವೆನಿಸಿದ ಕೃತಘ್ನು ಮಾಗುತ್ತಳದ । ಪ್ಪೀಕಾಯೆದಬಾಳ್ತಗಮವಿ । ವೇಕಿಗಳೇ ಪಾಪಜಾಲಮಂ ಮಾಳ್ಪರೊದಲ್॥

VI. (1) ಮಲಯವತಿಯ ಅತ್ಮಹತ್ಯೆ ಪ್ರಯತ್ನಕ್ಕೆ ಜೀಮೂತ ವಾಹನನೇ ಕಾರಣನೆಂದು ಚೇಟಿ ಯಾಕೆಹೇಳದಳು ? ಅತ ಹ್ಯಾಗೆ ಕಾರಣನಾದ ? (2) ಚಂದನಲತಾಗೃಹಕ್ಕೆ ಹೊರಟ ಮಲಯವತಿಯು ದೇವಾಲಯಕ್ಕೆ ನಡೆಯೆಂದು ಚೇಟಿಗೆ ಯಾಕೆ ಹೇಳದಳು ? ತರುವಾಯ, ಚಂದನಲತಾಗೃಹಕ್ಕಲ್ಲವೆ ಹೊರಡತಕ್ಕದ್ದು ಎಂದು ಚೇಟಿ ಎಚ್ಚರಿಸಲು ನಾಯಕೆಯು ನಾಚಿಕೊಳ್ಳುವುದಕ್ಕೆ ಕಾರಣವೇನು ? (3) ಕಂಖಚೂಡನು ವಧ್ಯಚಿಹ್ನವನ್ನು ಕೊಡದೇ ಇದ್ದಾಗ್ಯೂ ಜೀಮೂತವಾಹನನಿಗೆ ಅದುದೊರೆತದ್ದು ಹ್ಯಾಗೆ ? ನಾಯಕ ॥ (ತನ್ನೊಳು) "ಮಲಯವತೀ ಪಾಣಿಗ್ರಹಣವಿವಾಗಳೆನಗೆ ಭಣ್ಣಿ ಬಂದುದು." ಕೆಂಬಟ್ಟಿಯೆನ್ನು ಹೊಂದಿದ ಸಮಯದಲ್ಲಿ ನಾಯಕ ಯಾಕೆ ಈ ಮಾತನಾಡಿದ ? ಈ ಮಾತನ್ನು ತನ್ನ ಮನಸ್ಸಿನಲ್ಲಿಯೇ ಎಂದು ಕೊಳ್ಳುವುದಕ್ಕೆ ತಾತ್ಪರ್ಯವೇನು ?

VII. 1. ಈ ಕೆಳಗಿನ ಪದ್ಯದ ಅರ್ಥವನ್ನು ಚೆನ್ನಾಗಿ ವಿವರಿಸಿ ವ್ಯಾಖ್ಯಾನವನ್ನು ಬರೆಯಿರಿ :—ಮಲ್ಲಿಗೆಯೆಲರ್ವಿಡಿದು ಕೆಂಜಾಜಿ ಯೆಂದೀವ । ರುಲ್ಲಾಸದಿಂದ ನೀಲೋತ್ಪಲವನೆಳೆ ನಗೆಯೆ । ಸೊಲ್ಲಿಂದ ಕುಮುದ ಮೆಂದುಸುರುವರ್ಸುರಹೊನ್ನೆ ಯೆರಳಮಾಲೆಯೆಂಬೊಪ್ಪುವ ॥ ಸಲ್ಲಲಿತಕಾಯದ ಸರಿಸಕೆತ್ತಿಸುರಗಿಯೆಂ । ದೆಲ್ಲರ್ಗೆ ತೋರಿಸುವರರುಣ ತಾಮರಸಮಂ । ಜೆಲ್ಲೆ ಗಣ್ಗೊನೆಯೊಳೀಗ್ರೈಸಿ ಪುಂಡರೀಕಮೆಂದೆಚ್ಚರಿಪರೆಳವೆಣ್ಗಳು॥

2. (a) ವರ, ಜಡ, ಭುವನ, ಅನಿಮಿಷ - ಈ ಪ್ರತಿಯೊಂದು ಶಬ್ದಕ್ಕೂ ಶ್ಲೇಷಾರ್ಥವನ್ನು ಒರೆಯುವುದು. (b) ಪದುಳ, ಮುಂಜೂಣಿ, ಹೋರು, ಸಲೆ - ಇವುಗಳ ಅರ್ಥವನ್ನು ಬರೆಯುವುದು.

VIII. (1) ಕನ್ನಡದಲ್ಲಿ ಪ್ರಯೋಗಿಸಿರುವ ಸಂಸ್ಕೃತ ಶಬ್ದಗಳನ್ನು ತಿಳಿದುಕೊಳ್ಳಿ ಶೇಕಾದರೆ ಸಾಧಾರಣವಾದ ಗುರುತುಗಳೇನು ? ನಿಮ್ಮ ಉತ್ತರಕ್ಕೆ ಪ್ರತಿಷೇಧವಿದ್ದರೆ ಬರೆಯಿರಿ. (2) ಕನ್ನಡದಲ್ಲಿ ಸಂಧಿಯನ್ನು ಯಾವ ಸಂದರ್ಭಗಳಲ್ಲಿ ಮಾಡಕೂಡದು ? (3) ಮಹತ್ + ದಾನಿ ; ಕಿರಿದು + ಗಿಣಿ ; ಮೂರು + ಮುಡಿ - ಇವುಗಳನ್ನು ಸಮಾಸಪದಗಳಾಗಿ ಬೇರೆ ಬೇರೆ ಬರೆದು ಸಮಾಸದ ಹೆಸರನ್ನು ಹೇಳುವುದು.

IX. (1) ಹಳೆಗನ್ನಡದಲ್ಲಿ ಭೂತಭವಿಷ್ಯದ್ವರ್ತಮಾನ ರೂಪಗಳ ಪ್ರತ್ಯಯಗಳು ಯಾವವು ? ಉದಹರಿಸಿ. (2) ಇಗ, ಆಣ, ಒಡೆ - ಈ ಪ್ರತ್ಯಯಗಳ ಅರ್ಥವನ್ನು ಬರೆದು ಉದಹರಿಸಿ. (3) ತೋಟ———— ; ಕಾಳು———— ; ಕಂದಾಯ———— ; ಗೆಡ್ಡೆ———— ಈ ಪ್ರತಿಯೊಂದು ಶಬ್ದಕ್ಕೂ ಅದಕ್ಕೆ ತಕ್ಕ ಒಂದೊಂದು ಶಬ್ದವನ್ನು ಜೋಡಿಸಿ ಆಡುವುದುಂಟು. ಹಾಗೆ ಬಿಟ್ಟಿರುವ ಶಬ್ದವನ್ನು ಅದರ ಅರ್ಥ ಸಹಿತವಾಗಿ ಬರೆಯುವುದು (ಉದಾಹರಣೆ—ಪತ್ರಪಲಾಶ).

X. (1) ನೀವು ಓದಿದ ಗ್ರಂಥದಿಂದ ರೂಪಕಾಲಂಕಾರಕ್ಕೆ ಒಂದು ಉದಾಹರಣೆಕೊಡಿ. ವಾರ್ಥಕಷಟ್ಪದಿಯು ಪ್ರಥಮಪಾದದಲ್ಲಿ ಗಣವೆಷ್ಟು ? ಆಪ್ರತಿಗಣಕ್ಕೂ ಮಾತ್ರೆ ಎಷ್ಟು ? (2) ಈ ಕೆಳಗೆ ಬರೆದಿರುವ ಪ್ರತಿಯೊಂದರಲ್ಲಿಯೂ ಗರ್ಭಿತವಾಗಿರುವ ಪುರಾಣದ ಕಥೆಯ ಸಂಗತಿಯನ್ನು ಒಂದೊಂದು ಸಮಾಸಪದಗಳಿಂದ ಸೂಚಿಸುವುದು. (a) ಪಾಕಶಾಸನನ ಸಕಲೈಶ್ವರ್ಯ ಸಂಪದಕೆ ಶೇರಾದ ವಸ್ತುವಂ ಪಡೆದಿತ್ತೆ. (b) ತಾಂತವೆ ಕೃತಾಂತರಿಪು ನೇತ್ರದಿಂದುರಿದ ವೃತ್ತಾಂತಮಂ ನೆನೆಯೆದೆ. (c) ಮಾವನಂ ಬಡಿದವಂ ನಂಟರರಿವನೆ.

WEDNESDAY, 17TH DECEMBER, 2 TO 5 P.M.

KANARESE TRANSLATION AND COMPOSITION.

I. Translate into Kanarese:—[See Urdu Translation paper, page xci.]

II. Translate into English:—

1. ನರಗಳ ತುದಿಯಿಂ ರಕುತಂ॥ ಸುರಿದಪುದೆನ್ನೊಡಲೊಳನ್ನು ಮಿರ್ಪುದು ಮಾಂಸಂ॥ ನೆರೆ ನಿನಗೆ ತೃಪ್ತಿಯೊದಂ॥ ತರಿಯೆಂನಾಂ ಗರುಡಯೇಕೆ ತಿನ್ನದೆ ಬಿಟ್ಟೈ.

2. ಕದ್ದು ಮನೆ ಮನೆ ಯೊಕ್ಕು ಬೆಣ್ಣೆ ಪಾಲ್ಗೆನೆಗಳಂ॥ ಮಿದ್ದು ಗೋವಳರಮೀಳದ ಕಲ್ಲಿಗೂಳ ಕೈ॥ ಮುದ್ದೆಯಂ ತೆಗದುಂಡು ತುರುಗಾವ ಳ್ಳಿಯೆಂ ಬಿಟ್ಟು ಬಳಕೆರಡಿಲ್ಲದೆ॥ ಹೊದ್ದಿ ಪಾಂಡವರನೋಲೈಸಲಾದುದು ಭಾಗ್ಯೆ॥ ಮಿದ್ದಪುದು ರಾಜ್ಯ ಭೊಜ್ಯಂಗಳವು ಪಡದವ॥ ರ್ಮುದ್ದು ಗೈದ ಪರೂಪದೆಡೆಗಳೋಳ್ ಜೋದ್ಯೆಮೆಂದಳ್ ಸತ್ಯಭಾಮೆ ನಗುತ.

3. ಇಂತೆಂದು ಪೇಳಲಾ ಸ್ಥಳಕಾಗಿ ನಡಿತೆಂದು॥ ದಂತಿರಾಜಂ ಜಾಡ ನಾಲಿಂಗಕರ್ಪಿಸುವ॥ ತಂತುವಂ ಪ್ರತಿದಿನಂ ಪರಿಹರಿಸಿ ತಾಂ ಪೂಜಿಸಲ್ಕದ ತಿಕೋಪದಿಂದಂ॥ ಅಂತದರ ಸೊಂಡಿಲೊಳು ಪೊಕ್ಕು ಮಿದುಳಂ ಕಜ್ಜ॥ ದಂತಿಯುಂಜಾಡನುಂ ಹತವಾಗಲಾ ಕ್ಷಣಂ॥ ಕಂತುಹರನವರ ಭಕ್ತಿಗೆ ಮೆಚ್ಚಿ ನಿಮ್ಮಿಷ್ಟವಾವುದೆನಲಿಂತೆಂದನು.

4 ಪೇಟೆ—(ಚಿತ್ತಾರವನ್ನು ಬಣ್ಣಿಸಿ) ಭರ್ತೃದಾರಿಕೆ, ನಿನು ಹೇಳುತ್ತೀಯೆ, ಈ ಚಂದ್ರ ಶಿಲಾತಲದಲ್ಲಿಯೇ ಭರ್ತೃದಾರಿಕೆಯ ಪಡಿನೆಳಲು ತೋರ್ಪುದೊ, ಅಥವಾ ನೀನೇ ಬರೆಯಲ್ಪಟ್ಟಿರುವೆಯೋ, ಎಂದು ಯಾವುದರಿಂ ತಿಳಿಯುವದಿಲ್ಲವೋ ಅದು ಅಂಥಾ ಒಳ್ಳೆಯದಾದ ಹೋಲಿಕೆಯು.

ನಾಯಿಕೆ—(ನಕ್ಕು) ಚಿತ್ರಗತಳಾದ ನನ್ನಂ ತೋರಿಸುವ ಅವನಿಂದ ನಾನು ದುರ್ಜನಳೆಂದೆನಿಸಿ ಕೊಂಡೆನು.

ವಿದೂ—ಈಗಲೇನಿನಗೆ ಗಂಧರ್ವ ವಿವಾಹವು ಆಯಿತು - ಅದರಿಂದ ಅವಳ ಕೈಯನ್ನು ಬಿಡು - ಅವಳು ಯಾರೋ ಬೇಗನೆ ಬೇಗನೆ ಇಲ್ಲಿಗೇ ಬರುತ್ತಿದ್ದಾಳಲ್ಲವೆ.

5. ತಿಳಿಯಿಸಲಕ್ಕುಂ ಸುಖದಿಂ॥ ತಿಳಿಯದನಂ ತಿಳಿದ ಜನವನತಿ ಸುಖದಿಂದಂ॥ ತಿಳಿಯಿಸಲಕ್ಕುಂ ತಿಳಿದುಂ॥ ತಿಳಿಯದ ಮೂರ್ಖಂಗೆ ತಿಳಿಸೆ ವಿಧಿಯುಮಕ್ಕ್ತಂ.

6. ಅತಿ ಕೋಪಿಯಾದ ಪೃಥ್ವೀ ॥ ಪತಿಗಿವನೆಮ್ಮಾತನೆಂಬ ನೇಹ ಮದಿಲ್ಲಂ ॥ ಹುತವಹನಂಟದೊಡಿವನಾ ॥ ಹುತಿ ಯೊವವನೆಂದು ಸುಡದೆ ಬೇಳ್ದೀ ಕ್ಷಿತನಂ.

III. Write an essay in Kanarese on "*the draught and pack animals of the world,*" or on "*the government of the tongue.*"

"ಶೋಕದಲ್ಲಿಯೆಣ ಬಂಡಿ ಯೆಳೆಯುವ ಮೃಗಗಳೂ ಮೊಟ್ಟೆ ಹೊರುವ ಮೃಗಗಳೂ." ಅಥವಾ "ನಾಲಿಗೆಯನ್ನು ಸ್ವಾಧೀನದಲ್ಲಿಟ್ಟು ಕೊಳ್ಳೋಣ" ಈ ಎರಡರಲ್ಲಿ ಒಂದನ್ನು ಕುರಿತು ಒಂದು ಉಪನ್ಯಾಸವನ್ನು ಬರೆಯುವದು.

WEDNESDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

MALAYALAM: TEXT-BOOKS AND GRAMMAR.

I. ಇವಕ್ಕ ಅರ್ತ್ಥಂ ಪರಕ :—(1) ಪ್ರಷ್ಟೋಮುನಾವಾರ್ತ್ತಮಜಾತಶತ್ರೂ ಹೃಷ್ಟಸ್ತಮಾಚಷ್ಟಗಿರಂಗರಿಷ್ಠಾಂ (2) ಸ್ಪಟಕಾನುಪಾಯಾದುಪಾಯಾಚ್ಚ ತಾರಿಸ್ಸಭೋಜಸ್ಸ ಮೆತಾನುಪಾಕರ್ಣ್ಯಶೌರಿಃ (3) ಸಹಸಾರಥೀರ ಣಜಿಗೀಷಯೊತ್ತ ರಸ್ಸಹಸಾರಥೀನಿಜ ಪುರಾಲ ಪ್ರತಸ್ಥಿವಾನ್ (4) ಕಾಂತಾಷಮ್ಮಾನಿಲೆನಗ್ಲಪಿತತನುಲತಾಮಲ್ಲಿಕಾವಲ್ಲಿಕೆವ.

II. ತಾಳೆಕಾಣುನ್ನ ಶ್ಲೋಕಙಳ್ಕ ಅರ್ತ್ಥಂ ಎಳ್ಳುತುಕ :—

1. ಶಾತೊದರೀಚಟ್ಟಲಚಾರುಕಟಾಕ್ಷಪಾತ
   ಪಾಥೆಯವಾನ್ ಪ್ರವಿಚರನ್ ಪ್ರಿಯಸಾಹಸೊಸೌ
   ಪಾಟಪ್ರಪಾತಚಕಿತಾಖಿಲಸತ್ಪಜಾತೊ
   ವಾತಾತ್ಮಜೊಪಿಕಟಳೀವನಮಾಸಸಾಟ.

2. ಅಕ್ಷಂಕೊಣ್ಡೊನ್ನೆರಿಞ್ಞಾನ್ ನೃಪತಿಕಪಿತನಾಸ್ಥಲ್ಕಕ್ಷ ಣೆಪಾಣ್ಡುಸೂನುಂ ಕಷ್ಟಂ ಸಗ್ಗಾಸಿರಕ್ತಂವಿಳಕಿಲಶುಭಮೆನ್ನಾಶ್ರು ಚೊಲ್ಲಿತ್ತಡಾನೀಂ. ನೆರರೀನ್ನಿರರಿರರುವೀಳಂಶುಧಿರ ಮಧುಜವಾಲುತ್ತರೀ ಯತ್ತಿಲೆರರಾಳ್ ಕರರಕ್ಕಾಕುನ್ತಲಾಳ್ ಚೂಡಿನಮಕಟ ಮಹಾರತಮಾಂಯಾ ಜ್ಞಾಸೆನಿ.

III. (1) ನಾನ್ದೀ ಎನ್ನಾಲೆನ್ತ ? ವೀಟ್ಟಷಕನೆರ ಲಕ್ಷಣಙಳೆವ ? ದುಷ್ಯನ್ತನ್ ಏತುಮಾತಿರಿನಾಯಕನ್ ? (2) ಶಾಕುನ್ತಲತ್ತಿಲ್ ಏತೆಙ್ಕಿಲುಂ ಒರಙ್ಕತ್ತಿನೆರ ಕಥಾಸಾರಂ ಎಳ್ಳುತುಕ.

IV. 1 ಇತಿನೆರ ಅನ್ವಯಂಮಾತ್ರಂ ಎಳ್ಳುತುಕ —

   ಸಾರಥ್ಯಕರ್ಮ್ಮಣಿತವಾಸ್ತಿಬ್ಬಹನ್ನಳೆತಿ

കൃഷ്ണാവചശ്രുതവതാപുനരുത്തരെണ
ദ്രാഗുത്തരംസ മുദിതാഭിമതാർജ്ജുനെന
സാകംസമെത്യ ചജഗാദസഹൊദരംതം.

2. ഈപദങ്ങൾക്ക അർത്ഥം പറക :—

ക്ഷെപളാ. വരൂഥിനീ. വിഷ്ഫാരം. പപ്രച്ഛ. ആഖെടം. കുത്സിതം. പൊടാ. ഘൊണീ. സൌഹൃദം. വീരാപത്യൻ.

3. അർജ്ജുനനും കർണ്ണനും തമ്മിൽ എന്തു വ്യത്യാസമുണ്ടെന്നാണ കൃപരപറയുന്നത ? അർജ്ജുനന്റെ വൈഭവങ്ങൾ പ്രത്യക്ഷപ്പെട്ട സംഗതികൾ ഏതെല്ലാം ?

V. താഴെയുള്ളവരികളിൽ ഗർഭിതങ്ങളായ കഥകളെവ ? (1) വാതാപിതന്നെക്കൊന്നു വാരുററമുനികൾക്ക ബാധയകററിയതിവൻ. (2) ചരണെനിപീഡ്യചരണെകൃതാഞ്ജലിംസജഗാദഭഗ്ന ഭുജഗാദരംഹസം. (3) എന്നാൽത്രിശങ്കുവിനെപ്പൊലെഇടയിൽ നില്ക്കണം.

VI. (1) മാലെയം, വീക്ഷൻ, ഈ ശബ്ദങ്ങൾക്ക വല്ല ദോഷവും പറയാനുണ്ടെങ്കിലെന്ത? (2) കെട്ടാലുമിത്തരുണിമെനകയെന്നവാനോർ മട്ടൊലുമുക്തി മണിതള്ളിയപിള്ളയത്രെ ഇതിന്റെ വൃത്തം എന്ത? തള്ളിയകഥയും പറക. ഇത ആരാരൊടു പറയുന്നത ?

VII. (1) സമാസങ്ങ ളെത്ര ? മഞ്ഞമുണ്ട, പീതാംബരൻ-ഇവ ഏതു സമാസങ്ങൾക്ക ഉദാഹരണം ? (2) ഇവയെ പദച്ഛെദം ചെയ്തെഴുതണം. ബൃഹന്നളെതി. തവാസ്തി. രാമകൃഷ്ണാവമൂ. യാതെജ്ജുനെ. (3) ഭക്ഷണം, ജഠരം, ശ്രൊണീ ഈ പദങ്ങൾ എന്തുകൊണ്ടു തമിഴ വാക്കുകളല്ലെന്നു നിശ്ചയിക്കാം ?

VIII. 1. കുപിതനായലക്ഷ്മണനൊടു രാമൻ പറഞ്ഞ ധർമ്മങ്ങളെ ചുരുക്കി എഴുതെണം.

2. ഇവ ആരാരൊടു പറഞ്ഞ വാക്കുകൾ ? (a) നിന്ദ്യമായുള്ളതു ചെയ്താലൊടുക്കത്തു നന്നായ്വരികിലതും പിഴയല്ലെല്ലൊ, എന്താണ നിന്ദ്യം ? നന്നായത എങ്ങനെ ? (b) താന്താന്നിരന്തരം ചെയ്യുന്ന കർമ്മങ്ങൾ താന്താനനുഭവിച്ചീടുകെന്നെ വരു. (c) നിന്നെഭജിപ്പവർസ്വാന്തംനിനക്കുസുഖവാസമന്ദിരം.

IX. താഴെ വിട്ടിട്ടുള്ളപദങ്ങളെക്കൂടി ചെർത്തെഴുതുക :—

നാരായണൻ നീ .... ജാനകീ

ഉമാദെവിജാനകീ
ആദിത്യനെല്ലൊഭവാൻ ജാനകീ
രൊഹിണീജാനജീ
ആദിതെയാധിപൻനീ ജാനകീ
സ്വാഹാ

WEDNESDAY, 17TH DECEMBER, 2 TO 5 P M.

MALAYALAM TRANSLATION AND COMPOSITION

I Translate into Malayalam —[See Urdu Translation paper, page xci]

II Translate into English —

1 ശ്രീരാമവാക്ക കേട്ടൊരുവൈദേഹിയു
മാരൂഢതാപേന പിന്നെയും ചൊല്ലിനാൾ
നാഥ പതിവ്രതായാ ധമ്മപത്നിഞാ
നാധാരവുമില്ല മററിനിക്കാരുമെ
ഏതുമെ ദോഷവുമില്ല ദയാനിധെ
പാദശുശ്രഷാവ്രതം മുടക്കായ്കമെ
നിന്നുടെ സന്നിധൌ സന്തതം വാണീടു
മെന്നെ മററാൎക്കാനും പീഡിച്ചു കൂടുമോ
വല്ലതും മൂലഫലജലാഹാരങ്ങൾ
വല്ലഭൊഛ്ശിഷ്ടമിനിക്ക മൃതൊപമം.
ഭൎത്താവു തന്നൊടു കൂടെ നടക്കുംപൊ
ളെത്രയും കൂൎത്തുമൂൎത്തുള്ള കല്ലും മുളളും
പുഷ്പാസ്തരണ തുല്യങ്ങളിനിക്കതും
പുഷ്പബാണോപമ നീ വെടിഞ്ഞീടൊലാ.

2 എന്നാൽ മുമ്പേകൂട്ടി കാടുവളയുന്നതിനായി പോയിരിക്കുന്നവരെ തിരിയെ വിളിച്ചെയ്ക്കണം. സൈന്യങ്ങൾ മഹൎഷിമാരുടെ ആശ്രമഭൂമിക്ക സമീപത്തെങ്ങും പോകരുതെന്നു പ്രത്യേകം പറകയും വേണം. എന്തെന്നാൽ

ശമധനരായ മാമുനിജനേഷു നിഗ്രഢ മഹോ
കിമപിമഹഃ കൃശാനുമായമു ണ്ടവരായതിനേ.
ഹിമശിശിരങ്ങളായ ഹരിദശ്വ മഹാമണി ഭി
സ്സമമുടനുൽ ഗരന്തി പരധാമസമാക്രമണെ

3 രാത്രിയും കഴിഞ്ഞിതു ലക്ഷ്മണൻ തൊഴുതുടൻ
ധാത്രീനന്ദനയോടു മെല്ലവേ ചൊല്ലീടിനാൻ
കാനനഭൂമിതന്നിൽ താപസികളെ കാണ്മാൻ
ജാനകീപോക തേരിലേറുക വൈകീടാതെ,
തേരൊരുമിച്ചുകൊണ്ടു വന്നിതു സുമന്ത്രരും.
പോരുകെന്നതു കേട്ടു ജാനകി സന്തോഷിച്ചാൾ;
ഇന്നലേ മമ ഭത്താ ചൊന്നതിന്നേതും നീക്കം
വന്നീലെന്നോൎത്ത കൌതുഹലവും പൂണ്ടാളേററം,
പട്ടുകൾ വസ്ത്രാഭരണങ്ങൾ നല്ലവമററു
മിഷ്ടമാമ്മാറു മധുര ദ്രവ്യമായിട്ടേററം
ഭക്ഷണസാധനങ്ങൾ സുഗന്ധദ്രവ്യങ്ങളും
ചന്ദനാദികൾ മുനിപത്നികൾക്കാനന്ദമായി
വന്ദിച്ചാൽ ദാനം ചെയ്വാനെടുത്തു വൈദേഹിയും,
യാത്രയുമയപ്പിച്ചു തേരതിൽ കരയേരി,
ആസ്ഥയായി സൌമിത്രിയും തേരതിൽ കറേരിനാൻ
4 കണ്ണാടി കാണ്മോളവും തന്നുടെ മുഖമേററം
നന്നെന്നു നിരൂപിക്കുമെത്രയും വിരൂപന്മാർ.
മററുള്ള ജനങ്ങൾക്കു കുററങ്ങൾ പറഞ്ഞീടും
മുററും തന്നുടെ കുററം ഒന്നറികയുമില്ല.

III Write an essay in Malayalam on "*the draught and pack animals of the world,*" or on "*the government of the tongue.*" ഭൂമിയിലെ സാമാനംവലിക്കുന്നെയും ചുമട ഇടുക്കുന്നെയുംആയ കന്നുകാലികളെ കുറിച്ചൊ നാക്കിൻെറ ഭരണത്തെകുറിച്ചൊ ഒരു മലയാള പ്രസംഗം എഴുതുക

WEDNESDAY, 17TH DECEMBER, 10 A M TO 1 P M
URIYA TEXT-BOOKS AND GRAMMAR

I (କ) ତୁମ୍ଭେ ପଢିଥିବା ମହାଭାରତ ରଚୟିତାଙ୍କ ଜୀବନଚରିତ କତିପୟ ପଂକ୍ତିରେ ଲେଖ ପୁଣି ଏହି ଗ୍ରନ୍ଥ କେଉଁ ବର୍ଷରେ ସମାପ୍ତ ହେଲା ଉଲ୍ଲେଖ କର । (ଖ) କେଉଁ ପରି କୀର୍ତ୍ତିଲାଭ ବାଞ୍ଛନୀୟ ତାହା ଗ୍ରନ୍ଥ-କର୍ତ୍ତାର ଭାଷାରେ କି ଅବା ତୁମ୍ଭର ଭାଷାରେ ବର୍ଣ୍ଣନା କର । (ଗ) ଧର୍ମ-

ପୁରୁଷ କେଉଁ କେଉଁ ଗୁଣାନୁସାରେ ଲୋକମାନଙ୍କୁ କେତେ ଶ୍ରେଣିରେ ବିଭକ୍ତ କଲେ ? ସ୍ୱପ୍ନ ଶେଷରେ ସେ ଯେଉଁ ଉପଦେଶ ପ୍ରଦାନ କଲେ ତାହା ସଂକ୍ଷେପରେ ଲେଖ । (ଘ) ଫୁଲରୁ ଫଳ କେଉଁ ପରି ଜାତ ହୁଏ ତାହା ସ୍ପଷ୍ଟରୂପରେ ଲେଖ ।

II. ନିମ୍ନଲିଖିତ ବାକ୍ୟମାନଙ୍କର ବିଶଦରୂପେ ବ୍ୟାଖ୍ୟା କର :— (କ) ପୌର୍ଣ୍ଣମାସୀର ସୁଧାମୟୀ ଶୁକ୍ଳ ଯାମିନୀର ସହିତ ଅମାବସ୍ୟାର ତାମସା ନିଶାର ଯେ ପ୍ରକାର ପ୍ରଭେଦ, ସୁଶିକ୍ଷିତ ବ୍ୟକ୍ତିଙ୍କର ବିଦ୍ୟାଲୋକ-ସମ୍ପନ୍ନ ସୁଗୁରୁ ଚିତ୍ତ-ପ୍ରସାଦର ସହିତ ଅଶିକ୍ଷିତ ବ୍ୟକ୍ତିର ଅଜ୍ଞାନ-ତିମିରାବୃତ ହୃଦୟ-କୁଟୀରର ସେହି ପ୍ରକାର ପ୍ରଭେଦ ପ୍ରତୀୟମାନ ହୁଏ । (ଖ) ତାହାର ପ୍ରଧାନ ମନୋବୃତ୍ତ ସମୁଦାୟ ଚିରନିଦ୍ରିତ ଥାଏ ଅଥବା ଅଯଥା ବିଧାନରେ ପରିଚାଳିତ ହୋଇ ଅକର୍ମଣ୍ୟ ଓ ଦୋଷାନ୍ୱିତ ହେଉଥାଏ । (ଗ) ସେହି ବୃକ୍ଷର ମୂଳ ମୃତ୍ତିକା ସଂଯୁକ୍ତ ନୁହେ, ଆଉ ଗୋଟାଏ ପ୍ରାଚୀନ ବୃକ୍ଷର ସ୍ଳଦ୍ଧର ଉତ୍ପନ୍ନ ହୋଇଅଛି । ଆମ୍ଭେ ଏହି ଶେଷୋକ୍ତ ତର ପରି ସାରବାନ୍ ବୃକ୍ଷ ଆଉ ଗୋଟିଏ ମାତ୍ର ଦୃଷ୍ଟି କରି ନାହୁଁ । ତାହାର କୌଣସି ସ୍ଥାନରେ କଣା ମାତ୍ର ସୁଦ୍ଧା କ୍ଷୟ ହୋଇ ନାହିଁ ଓ କୁତ୍ରାପି ଗୋଟିଏ ମାତ୍ର ଛିଦ୍ର କିମ୍ବା ଚିହ୍ନ ନାହିଁ । (ଘ) ଇହା ପୂର୍ବରେ ବିଶ୍ୱାଧିପତିଙ୍କର ବିଶ୍ୱବ୍ୟାପିନୀ ଐଶୀ ଶକ୍ତି-ପରିମାଣ, ବିଷୟରେ ଗ୍ରହନକ୍ଷତ୍ରର ଦୂରତ୍ୱ ଓ ବେଗତତ୍ତ୍ୱବୋଧକ ଯେଉଁ ସମସ୍ତ ସଂଖ୍ୟବାଚକ ଶବ୍ଦ ନିର୍ଦ୍ଦେଶ କରା ଯାଇ ଅଛି ତାହା ମନୋ-ମଧ୍ୟରେ ଧାରଣା କରିବା ମନୁଷ୍ୟର ସାଧ୍ୟ ନୁହେଁ । (ଙ) ନୃପତି ନକ୍ଷତ୍ରରେ ସେ ସଭାଗଗନ । କୃଷ୍ଣଚନ୍ଦ୍ର ଘେନ ଦିଶିଲା ପ୍ରସନ୍ନ ॥ (ଚ) ଅମୀଶ୍ୱର ହୋଇ ଯେ ଈଶ୍ୱର ପରି ଏକ୍ରୋଧ । କରୁଥାଏ ସେ ଦୋଷେ ହୁଅଇ ସେ କଧ ॥

III. (କ) ଆଦଶ୍ୟକମତେ କିଞ୍ଚିତ୍ ଶବ୍ଦ-ରୂପ ପରିବର୍ତ୍ତନ କରି ଉପ-ରିଲିଖିତ ପ୍ରଶ୍ନର ପ୍ରଥମ ଓ ଦ୍ୱିତୀୟ ରେଖ ଚିହ୍ନିତ ପଦମାନଙ୍କୁ ଦୁଇ ସମସ୍ତ-ପଦରୂପରେ ପରିଣତ କର ଓ ତୃତୀୟ ରେଖାଚିହ୍ନିତ ସମସ୍ତ ପଦର ସମାସ ବିଗ୍ରହ ଲେଖ । (ଖ) ଦ୍ରୌପଦୀଙ୍କ ପ୍ରୀତି ପାଇଁ ଏକ୍ରୋଧବଶ । ଗନ୍ଧବଙ୍କୁ ଗନ୍ଧମାଦନେ କଲେନାଶ ॥—ଏହି ପଦ୍ୟରେ ଉଲ୍ଲିଖିତ ହେବା ପୌରାଣିକ ଘଟନାର ଇତିବୃତ୍ତ ଲେଖ ।

IV. (କ) ଇଦାନୀନ୍ତନ ପଣ୍ଡିତମାନେ ଉଲ୍କାପିଣ୍ଡର ନିର୍ମାଣ ଗତି ଓ ସୌରଜଗତରେ ଗ୍ରହମାନଙ୍କ ସହିତରେ ତାହାର ସମ୍ବନ୍ଧ ବିଷୟରେ କେଉଁ

ତତ୍ତ୍ୱ ନିରୂପଣ କରି ଅଛନ୍ତି ? (ଖ) ଜୋଆର ଭଟା କେଉଁ ପରି ହୁଏ ବୁଝାଇ ଦିଅ ।

V. (କ) ଉଷ୍ଣପ୍ରସ୍ରବଣମାନଙ୍କ ଉତ୍ପତ୍ତି ସମ୍ବନ୍ଧରେ ଭୂତତ୍ତ୍ୱବିତ୍ ପଣ୍ଡିତ-ମାନଙ୍କର ମତ କଅଣ ? (ଖ) ଜଳସ୍ତମ୍ଭର ଉତ୍ପତ୍ତି ବିଷୟରେ ପଣ୍ଡିତମା-ନଙ୍କର ମତ ଓ ସେହି ମତ ସମର୍ଥକ ଯୁକ୍ତିମାନ ପ୍ରଦର୍ଶନ କର ।

VI. (କ) ଚର୍ମଚଟିକାର ନଖ, ବହୁରୂପର ବର୍ଣ୍ଣପରିବର୍ତ୍ତନ-ଶକ୍ତି, କୌଣସି କୌଣସି ପତଙ୍ଗର ବହୁନେତ୍ର, ବକର ଦୀର୍ଘପାଦ ଓ ଉଷ୍ଟ୍ରର କକୁଦ୍, ସେମାନଙ୍କ ଜୀବନଯାତ୍ରା ନିର୍ବାହ ବିଷୟରେ କିରୂପରେ ସହାୟତା କରୁଅଛନ୍ତି । (ଖ) ଶ୍ରୀକୃଷ୍ଣ କୁରୁଙ୍କୁ ଯେଉଁ ବିଶ୍ୱରୂପ ଦେଖାଇଲେ ତାହା ବର୍ଣ୍ଣନା କର । (ଗ) ଆତ୍ମପ୍ରସାଦ ଓ ଆତ୍ମଗ୍ଲାନି କଅଣ ? ଆତ୍ମପ୍ର-ସାଦ ବିଶିଷ୍ଟ ମନୁଷ୍ୟର ସହିତ ଆତ୍ମଗ୍ଲାନିଯୁକ୍ତ ମାନବର ତୁଳନା କର ।

VII (କ) ସଜାତୀୟ, ଦ୍ୱୀପ, କଦନ୍ନ, ଅନୋଦ୍ୟନ୍ୟ ଯୁବଯାନ, ବିମ୍ବାଧର, ଉପଗିରି, ପ୍ରତିମୂର୍ତ୍ତି—ଏମାନଙ୍କର ସମାସ ଓ ସମାସବାକ୍ୟ ଲେଖ । (ଖ) କମଠ, ବିସଂକଟ, ଗୋମୟ, ଦୃଷ୍ଟଚର, ଦ୍ରାଘିମା—ଏମାନ କେଉଁ ଶବ୍ଦର ଉତ୍ତର କି ଅର୍ଥରେ କି ପ୍ରତ୍ୟୟ କରି ନିଷ୍ପନ୍ନ ହେଲେ ? (ଗ) କେ-ତେ ଗୁଡିଏ ଶବ୍ଦର ଉତ୍ତର ଅଛି ଅର୍ଥରେ ଶ ପ୍ରତ୍ୟୟ ହୁଏ—ଏପରି ଯୋଡିଏ ଶବ୍ଦର ଉଦାହରଣ ଦିଅ ।

VIII. (କ) ଯୋଗ୍ୟତା, ଆକାଙ୍କ୍ଷା ଓ ଆସକ୍ତି କାହାକୁ ବୋଲି ଉଦାହରଣ ସହିତରେ ବୁଝାଇ ଦିଅ । (ଖ) ରସ କାହାକୁ ବୋଲି ? ଦୁଇ ଗୋଟି ରସର ଉଦାହରଣ ଦିଅ । (ଗ) ସ୍ୱଭାବୋକ୍ତି ଅଳଙ୍କାରର ଗୋଟିଏ ଉଦାହରଣ ଦିଅ । (ଘ) ମହାକବି ପ୍ରୟୋଗର ଦୁଇ ଗୋଟି ଦୃଷ୍ଟାନ୍ତ ପ୍ରଦର୍ଶନ କର ।

WEDNESDAY, 17TH DECEMBER, 2 TO 5 P.M.

URIYA : TRANSLATION AND COMPOSITION.

I. Translate into Uriya :— [See Urdu Translation paper, page xci].

II. Translate into English :—

[କ] ଅବନୀ-ମଣ୍ଡଳର ଆୟତନ ମାତ୍ର ଅନୁଭବ କରି ନିରସ୍ତ ହେବା ଉଚିତ ନୁହେ । ଏଥିରେ ଯେଉଁ ସମସ୍ତ ଅଦ୍ଭୁତ ବ୍ୟାପାର ଅହର୍ନିଶି ସମ୍ପାଦିତ ହୋଇ ସର୍ବ-ମଙ୍ଗଳାକରର ମଙ୍ଗଳକର କୌଶଳ ସମ୍ପାଦନ କରୁ

ଅଛି, ତାହା ଏକାଥ୍ର ଏକ କାଳରେ ଅନୁଭବ କରିବା ସାଧାରଣ ବୋଧ ହୁଏ । ଜଳ-ପ୍ରପାତ ପଡୁଛି ହେଉଅଛି, ପ୍ରବଳ ଝଟିକା ଉଠି ପ୍ରବ ହେଉଅଛି, ମେଘାବଳି ଉତ୍ପନ୍ନ ହେଉଅଛି, ଶିଳା ଓ ଧଳେଲ ବର୍ଷିତ ହେଉଅଛି, ନଦୀ ଓ ନର୍ଦ୍ଦର ପ୍ରବାହିତ ହେଉଅଛି, ଗିରି ଓ ଗହ୍ୱର ମେଘନାଦରେ ନାଦିତ ହୋଇ ଭୂ-ମଣ୍ଡଳ କମ୍ପମାନ କରୁଅଛି, ଏବଂ ଆଗ୍ନେୟ ଗିରିର ଅଗ୍ନ୍ୟୁତ୍ପାତ ଉପସ୍ଥିତ ହୋଇ ତତ୍ସଃ-ପାର୍ଶ୍ୱରେ ଭୟଙ୍କର ବ୍ୟାପାର ଉଦ୍ଭାବନ କରି ଅଛି ।

[ଖ] ପାଣ୍ଡବଙ୍କ ପକ୍ଷେ ଥାଇ ହେ ମାଧବ ।
କାହିଁକି କରୁ ଅଛ ମୋତେ ପରାଭବ ।
ଭୀଷ୍ମ ଦ୍ରୋଣ ବଳୁର ଭୁଲରେ ଚାଉ ମୋତେ ।
ତୁମ୍ଭ ଶିକ୍ଷା ପାଇ ନନ୍ଦନ୍ତ କରତେ ।
ମୋ ମତରେ ଛଡ଼ି ତ ଅପରାଧ ମୁହିଁ ।
ବଳ ପଣ ମୋତେ ପରତେ ହେଉ ନାହିଁ ।
ପାଣ୍ଡୁ ସୁତେ ଜୁଅ ଖେଳି ଶକୁନିକ ।
ରାଜ୍ୟ ହାର ହେଲେ କ କରିବ ମୁଁ ଉହିଁକ ।
ଏ ବାହାରେ ଖେଳରେ ବହୁ କରି ପ୍ରିୟ ।
ପ୍ରିୟାକୁ ହାରିଲେ ମୁକରନ୍ତି କ ଉପାୟ ।

[ଗ] କୌଣସି, ବ୍ୟକ୍ତି ଏପରି ଦୁରାକାଙ୍କ୍ଷ ଯେ କୌଣସି ବିଷୟରେ ମଧ୍ୟ ସନ୍ତୋଷ ନୁହନ୍ତି । ସେମାନଙ୍କର ଯେତେ ଅର୍ଥ ଲାଭ, ଓ ଯେତେ ପଦ ବୃଦ୍ଧି ହେଉଥାଏ, ଲାଳସାରୂପ ଅଗ୍ନି-ଶିଖା ତେତେ ମଧ୍ୟ ପ୍ରଜ୍ୱଳିତ ହୋଇ ସେମାନଙ୍କୁ ଅଶେଷ ପ୍ରକାର ଉତ୍ପାତରେ ପଡାଉ କରଏ । ସେମାନେ ପ୍ରଚୁର ଧନଶାଳୀ ହୋଇ ମଧ୍ୟ ସଦ୍ଦା ଉଦ୍ବିଗ୍ନ ଓ ଉତ୍କଣ୍ଠିତ ଚିତ୍ତରେ ଜୀବନଯାପନ କରନ୍ତି । ସନ୍ତୋଷ ଏପ୍ରକାର ଅନର୍ଥକ ଉଦ୍ବେଗର ମହୌଷଧ, ବହୁ ସେମାନେ ଅବଗତ ନୁହନ୍ତି ।

III. Write an essay in Uriya on "*draught and pack animals of the world* or on "*the government of the tongue*"

THURSDAY, 18TH DECEMBER, 10 A.M. TO 1 P.M

ALGEBRA AND GEOMETRY.

1 Prove that the interior angles of a triangle are together equal to two right angles

ABC is a triangle, D the middle point of BC, and BE, CF are the perpendiculars from B and C on the sides CA, AB. The perpendicular to EF through E meets the line joining F and D in G. Prove that $FD = DG$.

II. On a given straight line describe a segment of a circle containing an angle equal to a given angle.

Two circles touch internally at A, and the tangent to the smaller circle at any point B meets the larger circle in C and D. Prove that AB bisects the angle CAD.

III. Give, without proof, Euclid's construction for (1) inscribing a circle in a given triangle (2) describing in isosceles triangle having each of the base angles double of the third angle (3) inscribing a regular pentagon in a given circle.

IV. Prove that if a straight line be drawn parallel to one side of a triangle, it shall cut the other sides, or these sides produced, proportionally.

ABC is a triangle, and AD is drawn perpendicular to the bisector of the angle B. Show that a line through D parallel to BC will bisect AC.

V. Show how to describe a rectilineal figure which shall be similar to one and equal to another given rectilineal figure.

Compare the side of an equilateral triangle with the side of a square having the same area as the triangle.

VI. Show that $x^n - a^n$ is divisible by $x - a$ for all positive integral values of n; and hence, or otherwise, show that if any rational and integral expression which contains x vanish when a is put for x, the expression is divisible by $x - a$. If $x - a$ is a factor of $a_1x^2 + 2b_1x + c_1$, and $x + a$ of $a_2x^2 + 2b_2x + c_2$, prove that $(c_2a_1 - c_1a_2)^2 + 4(a_1b_2 + a_2b_1)(b_1c_2 + b_2c_1) = 0$.

VII. Solve the equations:—

1. $x(x - \sqrt{2} - \sqrt{3} - 3) + \sqrt{2} + \sqrt{3} + 2 = 0.$

2. $x + \dfrac{3}{y} = 2.$ $\qquad$ $y + \dfrac{3}{x} = -2.$

VIII. If a, b, x be positive quantities and $a > b$, prove that

$$\frac{a + x}{b + x} < \frac{a}{b}.$$

If a, b, c, d be in continued proportion, prove that

$$\sqrt{ab} - \sqrt{bc} + \sqrt{cd} = \sqrt{(a - b + c)(b - c + d)}.$$

IX. Show how to insert n geometric means between two quantities a and b.

α, β, γ are the geometric means between ca, ab; ab, bc; bc, ca respectively. Prove that if a, b, c are in A. P., α^2, β^2, γ^2 are also in A. P., and $\beta + \gamma$, $\gamma + \alpha$, $\alpha + \beta$ are in H. P.

X. Show how to find the number of permutations of n things taken r at a time. State how many combinations of r things each can be formed from n different things.

A cricket team consisting of eleven players is to be selected from two sets consisting of six and eight players respectively. In how many ways can the selection be made, on the supposition that the set of six shall contribute not fewer than four players?

XI Assuming the truth of the binomial theorem for a positive integral index, prove the truth of the theorem when the index is any positive quantity.

Find the coefficient of x^r in the expansion of $\left(\frac{1+x}{1-x}\right)^{\frac{1}{2}}$ in ascending powers of x.

THURSDAY, 18TH DECEMBER, 2 TO 5 P.M.
TRIGONOMETRY AND EUCLID, BOOK XI.

I. Construct an angle whose sine is $-\frac{1}{3}$ and cosine is $-\frac{2\sqrt{2}}{3}$

Prove *geometrically* that $\tan(n\pi+\theta) = \cot\left\{(2n+1)\frac{\pi}{2}-\theta\right\}$.

II. Obtain the formula $\cos B - \cos A = 2\sin\frac{A+B}{2}\sin\frac{A-B}{2}$.

Prove the following identities:—

1. $\cos 3A + \sin 2A = 2\sin\left(\frac{\pi}{4}-\frac{A}{2}\right)\cos\left(\frac{\pi}{4}-\frac{5A}{2}\right)$.

2. $\sin 10^\circ \sin 50^\circ \sin 70^\circ = \frac{1}{8}$.

If $\cos\theta + \cos(\theta-\beta) = \cos(\theta-\alpha) + \cos(\theta+\alpha-\beta)$, find the general value of θ.

III. If θ is a positive angle less than a right angle, prove that $\sin\theta$, θ, $\tan\theta$ are in ascending order of magnitude, and that the limiting value of $\frac{\tan\theta}{\theta}$ when θ is 0 is unity.

A vertical object subtends an angle of half a degree at a distance of 3,000 yards; find its height approximately.

IV. In the common system of logarithms, show that the characteristic may be determined by inspection.

Given $\log 2 = \cdot 3010300$, find $\log \cdot 0016$ and $\log (\cdot 000016)^{\frac{1}{3}}$

V. Find expressions for the cosine and the sine of an angle of a triangle in terms of the sides. Thence deduce the area of a triangle in terms of its sides.

Find the area in acres of a triangular field whose sides are 321, 442, 521 yards.

VI. Show how to solve a triangle when two sides and the included angle are given.

If $a = 65$, $b = 16$, $c = 60^\circ$, solve the triangle having given $\log 3 = \cdot 4771213$, $\log 7 = \cdot 8450980$, $L\tan 46^\circ 20' = 10\cdot 0202203$, $L\tan 46^\circ 21' = 10\cdot 0204732$.

VII. Obtain expressions for the radii of the circumscribed and escribed circles of a triangle.

If r_1, r_2, r_3 be the radii of the three escribed circles and R that of the circumscribed, show that, $(r_1+r_2)(r_2+r_3)(r_3+r_1) = 4R(r_1r_2 + r_2r_3 + r_3r_1)$.

VIII. The elevation of a tower on a horizontal plane is observed to be ϕ; a feet nearer it is found to be $\frac{\pi}{4}$, and b feet nearer still it is $\frac{\pi}{2} - \phi$. Show that the vertical height is $\frac{ab}{a-b}$.

IX. Show how to determine the inclination of (1) a straight line to a plane, (2) a plane to a plane.

If a straight line stand at right angles to each of two straight lines at their point of intersection, it shall also be at right angles to the plane in which they are.

X. If one of two parallel straight lines be perpendicular to a plane, the other is also perpendicular to a plane.

Friday, 19th December, 10 a.m. to Noon.
HISTORY OF GREECE AND ROME.

I. Describe the constitution of a Greek state in Homeric times. Enumerate and explain the nature of the forms of government characteristic of Greek states within the historical period. Illustrate each from the history of Athens.

II. Give an account of the fortunes of the Greeks in Asia Minor, and of the operations of the Persians in Europe, till the date of Darius' first expedition against Greece.

III. Narrate the part played in Greek politics by Lysander, during and after the Peloponnesian War.

IV. Show how Sparta was responsible for the divisions and weakness which rendered Greece unable to withstand the invasion of Philip of Macedon.

V. Draw a map showing accurately the Roman Provinces as at B.C. 133. What additions had been made by A.D. 14, and by whom? Give dates.

VI. Define the political standing of (1) Prefectures; (2) Municipal towns; (3) Roman colonies; (4) Latin colonies. How was their position affected by subsequent legislation, and in what circumstances?

VII. 1. What stages in the progress of the constitutional struggle between the Patricians and the Plebeians are marked by the passing of the following laws:—the Publilian of Volero; the Valerio-Horatian; the Canuleian; and the Ogulnian? Give dates.

2. What issues depended on the following battles:—Vesuvius; Sentinum; Beneventum; and Metaurus? Give dates.

VIII. Why did Hannibal prefer the land route to Italy? Describe carefully the Carthaginian tactics at Cannæ. Explain how it was that the Romans, in spite of Hannibal's victories, remained unconquered.

FRIDAY, 19TH DECEMBER, 12·5 TO 2·5 P.M.

HISTORY OF ENGLAND.

I. Trace the descent of Queen Victoria from Mary, Queen of Scots.

II. What were the causes that led to the American War of Independence? How was it begun? Mention the chief incidents of the war What English statesmen opposed it? What was the prevalent feeling among the people of England on the subject of the war? State how it was finally brought to a close.

III Write short notes on (1) the Triennial Act; (2) the Septennial Act; (3) the Grand Remonstrance; (4) the Solemn League and Covenant; (5) the Holy Alliance; (6) the Regulating Act; (7) the Bank of England; (8) the Test Act.

IV. Describe the struggles over the first great Reform Bill, and the repeal of the Corn Laws? What principles were secured by the passing of these measures respectively?

V 1. Give the dates of the Union of Scotland and of Ireland with England.

2 Describe the efforts that have been made from the time of Charles I. onward both to conquer and to pacify Ireland.

VI. Sketch the struggle against absolution carried on by Parliament from 1603 When was the long struggle brought to a close, and with what permanent results?

VII. What was the foreign policy of England during (1) the time of the Commonwealth; (2) the French Revolutionary period (1789—1815)?

VIII In what year, and through whose exertions, was the slave trade in England and her dependencies finally abolished?

FRIDAY, 19TH DECEMBER, 3 TO 5 P.M.

LOGIC.

I. 1. Explain and exemplify the distinction between positive, privative, and negative names.

2 Characterise (giving reasons) the following names as (*a*) abstract or concrete, (*b*) singular or common, (*c*) connotative or denotative or both:—virtue, senate, fortitude, Chancellor of the Madras University, Edward the First, Calcutta.

II. 1. Classify propositions according to Quantity and Quality; and state the rules for the Distribution of Terms.

2. State the following propositions in logical form, giving more than one form if the proposition happens to be ambiguous:—(*a*) these are all my books; (*b*) the virtuous alone are happy; (*c*) the man is not to be despised who can do a thing like that.

III 1. Construct sentences in which the predicate shall be (*a*) a Difference, (*b*) a Property, (*c*) an Accident, of each of the following subjects:—triangle, gold, fish.

2. Explain, giving one example of each:—cross-division; defining in a circle; division by dichotomy.

IV. Test the following immediate inferences by reducing them to logical form:—(1) A proud man cannot be wise, for all wise men are humble. (2) A student may be successful at the examination, though he is not industrious; for many industrious students fail. (3) If a man is to be happy, he must work, for all idle men are unhappy.

V. 1. Prove that in the First Figure, the minor premiss must be affirmative and the major universal.

2 Exhibit the following argument as a syllogism in Baroko, and reduce it both directly and indirectly to the First Figure:—Some faults are not voluntary and are therefore not blameworthy

VI. 1. Exhibit the following argument in the form of a Sorites, and resolve it into its constituent syllogisms:—Seshu will become a rich man; for being a clever boy, he will pass high in the University examinations and obtain a good post under Government.

2. Exhibit the following argument as a Dilemma:—Gymnastic training should not be made compulsory; for it is cruel to compel weak boys to undergo it; and strong boys will submit to it without compulsion

B.A. DEGREE EXAMINATION 1890-91.

THURSDAY, 20TH NOVEMBER 1890, 10 A.M. TO 1 P.M.

ENGLISH POETRY.

Shakespere, *Henry VIII*; Wordsworth, *The White Doe of Rylstone*; Tennyson, *Guinevere*, *Harold*.

I Take either *Henry VIII.* and *Guinevere* or *Harold* and *The White Doe*: write a critical essay, of about three pages, showing how religion and ecclesiasticism bear upon the stories and influence the minds and actions of the characters *Note.*—This essay should be carefully thought out and put together; marks will be given for style

II. What is the great defect in the dramatic construction of *Henry VIII*, and what inference do you draw from it regarding the authorship?

III. "Every character in a play should help in unfolding the plot, directly or indirectly, and every character that does not fulfil this condition is an encumbrance." From this point of view discuss briefly the propriety of introducing—*The three gentlemen*; *An old lady*; *Gamel*; *Wulfnoth*.

IV. Re-write the following passage in verse, punctuating it, marking the accents, dividing off the feet, and placing the cæsuræ (*Note.*—The words are in their proper order) "You're meek and humble mouthed you sign your place and calling in full seeming with meekness and humility but your heart is crammed with

arrogancy spleen and pride you have by fortune and his highness' favours gone slightly o'er low steps and now are mounted where powers are your retainers."

V. Explain the following :—

1. . . . . The wolf
Mudded the brook and predetermined all.
2. Far back. far back, my mind must go
To reach the well spring of this woe
3. The sleepy lance.
4. The running banquet of two beadles.
5. Come pat betwixt too early and too late.
6. A madness of farewells.
7. Come, come, my lord, you'ld spare your spoons.
8. Narrowing nunnery walls.
9. . . . . many
Have broke their backs with laying manors on (em)
10. Their anthems of no church how sweet they are.

VI 1. Put into *clear simple* English the first of the following passages, and also any one (one only) of the other three :—

(*a*) . . . . . If I am
Traduced by ignorant tongues, which neither know
My faculties nor person, yet will be
The chronicles of my doing, let me say
'Tis but the fate of place, and the rough brake
That virtue must go through. We must not stint
Our necessary actions, in the fear
To cope malicious censurers ; which ever,
As ravenous fishes do a vessel follow,
That is new trimmed, but benefit no further
Than vainly longing. What we oft do best,
By sick interpreters, once weak ones, is
Not ours, or not allowed ; what worst, as oft,
Hitting a grosser quality, is cried up
For our best act.

(*b*) . . . . . Wisdom when in power
And wisest, should not frown as Power, but smile
As kindness, watching all, till the true *must*
Shall make her strike as Power ; but when to strike—

(*c*) . . . . Turn not thou
Thy face away, but rather let me be
King of the moment to thee, and command
That kiss my due when subject, which will make
My kingship kinglier to me than to reign
King of the world without it.

(*d*) The garden pool's dark surface, stirred
By the night insects in their play,
Breaks into dimples small and bright ;
A thousand, thousand rings of light
That shape themselves and disappear
Almost as soon as seen.

2. From the first piece make a list of all words of classical origin, setting opposite each its nearest equivalent of English origin.

VII. Refer to each occasion on which a dream or vision occurs, and indicate the significance of any two.

VIII. Name and describe the metres of *Guinevere* and *The White Doe*, and the principal variations on them with illustrations.

IX. (1) What were the vows imposed by Arthur upon his knights? (2) What advice was given to Harold, and by whom, before the battle of Senlac, and what was his reply? (3.) What was said, and by whom, respecting —true repentance; the manner in which great people have to bear these sorrows; mockery.

X. Quote or distinctly refer to any two metaphors or similes in *Harold*, and any two in *The White Doe*, explaining and discussing them.

THURSDAY, 20TH NOVEMBER, 2 TO 5 P.M.

ENGLISH PROSE.

Hallam, *The Middle Ages, Chapter IX.*; Carlyle, *The Rectorial Address*; Myers, *Life of Wordsworth.*

I. Point out the changes by which, according to Hallam, the classical Latin language passed into the modern languages of France, Spain, and Italy.

II. To what causes does Hallam ascribe the preservation of ancient learning and civilisation throughout the Middle Ages?

III Hallam mentions five virtues as requisite to the character of a knight who embodied the perfect idea of chivalry Mention those five virtues and describe any three of them.

IV Illustrate the statement of Macaulay that "the character of Mr. Hallam's mind corresponds strikingly with that of his style."

V. 1 Give Carlyle's definition of (*a*) *diligence*, (*b*) *wisdom*, (*c*) *reverence*, (*d*) *holy*.

2. Explain the proverbs:—(*a*) "He that builds by the wayside has many masters." (*b*) "An ounce of mother wit is worth a pound of clergy."

VI. 1. How did the early stages of the French Revolution impress Wordsworth? 2. How does Myers account for that impression?

VII. Name and briefly describe each of the works of Wordsworth referred to in the following extracts:—(1.) "An epic poem on his own education." (2.) "The *locus classicus* or consecrated formulary of the Wordsworthian faith." (3.) "The last considerable production of Wordsworth's genius."

VIII. Explain:—1 "They have given an example of substantial comfort strenuously won. of home affections intensified by independent strength; of isolation without ignorance, and of a shrewd simplicity; of an hereditary virtue which needs no support from fanaticism and to which honour is more than law."

2. "The wind of his emotions blew right abaft, he swam smoothly in the stream of his nature, and lived but one man."

IX. What was Wordsworth's theory as to the language to be used in poetry? Criticize this theory.

X. State as precisely as you can the two philosophical lessons which Wordsworth drew from an introspection of the memories of his childhood.

XI. Draw a comparison between Scott's method of observing nature and Wordsworth's.

FRIDAY, 21ST NOVEMBER, 10 A.M. TO 1 P.M.

ENGLISH LANGUAGE AND LITERATURE.

I. Paraphrase:—

Nor happiness, nor majesty, nor fame,
Nor peace, nor strength, nor skill in arms or arts,
Shepherd those herds whom tyranny makes tame:
Verse echoes not one beating of their hearts;
History is but the shadow of their shame;
Art veils her glass, or from the pageant starts,
As to oblivion their blind millions fleet
Staining that heaven with obscene imagery
Of their own likeness What are numbers knit
By force or custom? Man who man would be
Must rule the empire of himself; in it
Must be supreme establishing his throne
On vanquished will, quelling the anarchy
Of hopes and fears, being himself alone.

II. 1. To which division of the Teutonic group of languages does the English language belong? What are the other languages in the same division?

2. Describe the principal changes in the vocabulary and grammar brought about by the Norman Conquest.

III. 1. Write short notes on the etymology of the following words:—*alms, near, first, many, four,* and *worst*; and on the changes of meaning undergone by the following words:—*caprice, libertine, innocent, silly, legend, dunce,* and *journal.*

2. Remark on the letters in italics in the following word:—*ch*ildren, thun*d*er, god*l*y, fore*m*ost, far*th*er, ne*x*t and be*st*.

3. Write grammatical notes on the words in italics in the following:—(*a*) Villain, I say knock *me* here soundly. (*b*) And I, as one, consent with *ye* in all. (*c*) *It* knighthood shall fight all *it* friends. (*d*) Yes, you have seen Cassio and *she* together.

IV. 1. What is meant by phonetic spelling? What are the arguments for and against its being adopted in place of present usage?

2. "All languages tend to clear themselves of synonyms as intellectual culture advances."—*De Quincey* Illustrate this passage by examples from the English language.

3. Give instances of words harmless once that have assumed a harmful as their secondary meaning

V. 1. "Poetry and the poetic form of expression naturally precede prose."—*Matthew Arnold.* Briefly discuss this and draw your illustrations from English literature.

2. Give a short account of the rise of the English drama

VI. 1. Mention the authors of eight of the following, and give the periods during which they flourished:—*Vision of Piers the Plowman; Letters on a Regicide Peace; The Hind and Panther; Colin Clout; The Virginians; The Beggar's Opera; Adam Bede; The Liberty of Prophesying; The Corsair; Oliver Twist; The Ormulum; She Stoops to Conquer;* and *The Mirrour for Magistrates.*

2. What were the circumstances under which either the *Dunciad* or *English Bards and Scotch Reviewers* was written?

3. Mention three great elegies in English literature and state the subject of each.

VII. How do you account for the rapid growth of English literature from the middle of the 18th century?

VIII. Show that the history of English literature is a faithful record of the social and political condition of the country, illustrating your answer from the period of the Restoration.

FRIDAY, 21ST NOVEMBER 1890, 2 TO 3·30 P.M.

ENGLISH COMPOSITION.

Write an essay on *one* of the following subjects:—

1. The decay of the study of Sanskrit in India.
2. The dignity of manual labour.
3. War.

SATURDAY, 22ND NOVEMBER, 10 A.M. TO 1 P.M.

SANSKRIT: TEXT-BOOKS AND GRAMMAR.

I. 1. Paraphrase in Sanskrit:—

1. शरज्ज्योत्स्ना कान्तं कुमुदमिव तं नन्दयतु सा
सुजातं कल्याणी भवतु कृतकृत्यस्स च युवा ।
वरीयानन्योन्यप्रगुणगुणनिर्माणनिपुणो
विधातुर्व्यापारः फलतु च मनोज्ञश्च भवतु ॥

2 अत्रान्तरे किमपि वाग्विभवातिवृत्त-
वैचित्र्यमुच्छ्वसितविभ्रममुत्पलाक्ष्याः ।
तद्दूरिसात्त्विकविकारमपास्तधैर्य-
माचार्यकं विजयि मान्मथमाविरासीत् ॥

3. यत्प्रागेव मनोरथैर्वृतमभूत्कल्याणमायुष्मतोः
तत्पुण्यैर्मदुपक्रमैश्च फलितं क्लेशोऽपि मच्छिष्ययोः ।

निष्णातश्च समागमोऽपि विहितस्त्वत्प्रेयसः कान्तया
संप्रीतौ नृपनन्दनौ यदपरं प्रेयस्तदप्युच्यताम् ॥

II. 1. सोऽयं प्रसिद्धविभवः खलु चित्तजन्मा
मा लज्जया तव कथं चिदपह्नुतिर्भूत् ॥
2. स्नेहश्च निमित्तव्यपेक्ष इति विप्रतिषिद्धमेतत् ॥
3 मा मूमुहत्खलु भवन्तमनन्यजन्मा
मा ते मलीमसविकारघना मतिर्भूत् ॥
4. गुणापेक्षाशून्यं कथमिदमुपक्रान्तमथवा
कुतोऽपत्यस्नेहः कुटिलनयनिष्णातमनसाम् ॥
5. वरेऽन्यस्मिन्द्वेषः पितरि विचिकित्सा च जनिता
पुरावृत्तोद्गारैरपि च कथिता कार्यपदवी ॥
6. मा वा सपत्नेष्वपि नाम तद्भू
त्पापं यदस्यां त्वयि वा विशङ्क्यम् ॥
7. यं च सामासाद्य दर्शितानेकराज्यफला लतेव महापा-
दपम् अनेकप्रतानगहना विस्तारमुपययौ प्रज्ञा ॥
8 सहि तं खु भअवदीगहिदणामहेयं सव्वदादादो सुमरेदि ॥
9 णहु सो उवरदो जस्स वल्लहो जणो सुमरेदि ॥
10. यस्मिंश्च राजनि प्रत्ययानां परत्वम् .... इन्द्रियाणां
निग्रहः....केशानामायतिभङ्गः.... अगस्त्योदये विष-
शुद्धिः ॥
11. पत्थावणा क्खु एसा कवडणाडअस्स ॥
12. नन्वयमेव चीरचीवरविरुद्धः परिचयः ॥

Explain the above passages and state by whom and to whom the 2, 3, 9, 11, and 12 passages were spoken.

III (1) Give the opinion of Kāmandakī about the principles of marriage. (2) To what religious sect does Aghōraghanta belong? (3) In what light does Bhavabhūti represent that sect in the Mālatīmādhava? Give references in support of your answer. (4) To what works does Bhavabhūti allude in the Mālatīmādhava? (5) State

briefly what you know about Bhavabhūti. 6. Compare Kālidāsa and Bhavabhūti as dramatists.

IV. Enumerate the ten kinds of the drama and state to which the Mālatīmādhava belongs.

V. 1. Give the English meaning which the following words have in your text-books :— रामणीयकम्, अभिसन्धिः, ऐदंपर्यम्, सुवर्णबिन्दुः, सतीर्थ्य, आनुयात्रिक, आचार्यकम्, श्वेतमान, नरजाङ्गलम्, सांराविणम्, तारामैत्रकम्, सुब्रह्मण्यम्.

2. Explain the derivation of the following words:— ऐदंपर्यम्, सांराविणम्, सतीर्थ्य, सद्यस्, सज्ज (ready), सपदि, प्रत्यक् and आत्त.

3. To what Sanskrit words are the following allied:—Go, hound, bear, wit, teach, be, voice and tame ?

VI. श्रान्तमिदमाश्रमपदं स्फुरति च बाहुः कुतः फलमिहास्य।
अथवा भवितव्यानां द्वाराणि भवन्ति सर्वत्र ॥

1. Who in the Mālatīmādhava experienced a similar omen, and on what occasion? Quote the stanza referring to the omen.

2. Quote a stanza from the Mālatīmādhava containing an idea similar to the one expressed in the second line above.

VII. 1. Give the 3rd singular aorist (लुङ्) of आधि + इ to study, and असू to throw; the 3rd singular aorist causative (णिच्) of पा to drink, त्वर्, भ्राज्, त्यज् and स्तृ, 3rd singular present (लट्) desiderative (सन्) of श्रु, ज्ञा, लभ् and आप्, and the past participle of दो, चर्, दिव् and वृह्.

2. State the difference in the formation of the 2nd singular imperative (लोट्) parasmaipada giving one example of each different form

3 हा ताद तुमं पि णाम एव्वं तिसव्वधा जिदं भोगतिण्हाए।
इदं गम्यते वत्से अनुजानीहि ॥
आविर्भवन्ती प्रथमं प्रियायाःसोच्छ्वासमन्तःकरणं करोति॥

Parse the underlined words in the above.

SATURDAY, 22ND NOVEMBER, 2 TO 5 P.M.

SANSKRIT TRANSLATION

I Translate into English :—

1 एकतमस्तु जरच्छबरस्तस्मात्पुलिन्दवृन्दादनासादित-हरिणपिशितः पिशिताशन इवातिविकृतदर्शनः पिशितार्थी तस्मिन्नेव तरुतले मुहूर्तमिव व्यलम्बत । अन्तरिते च शबर-सेनापतौ स जीर्णशबरः पिबन्निवास्माकमायूंषि रुधिरविन्दुपाट-लया कपिलधूलतापरिवेषभीषणया दृष्ट्या गणयन्निव शुक-कुलकुलायस्थानानि श्येन इव विहगामिषास्वादलालसः सुचि-रमारुरुक्षुस्तं वनस्पतिमामूलादपश्यत् । उत्क्रान्तमिव तस्मि-न्क्षणे तदालोकनभीतानां शुककुलानामसुभिः । किमिव हि दुष्करमकरुणानाम् । यतः स तमनेकतालतुङ्गमभ्रंकषशाखा-शिखरमपि सोपानैरिवायत्नेनैव पादपमारुह्य तानुपजातोत्प-तनशक्तीन्कांश्चिदल्पदिवसजातान्गर्भच्छविपाटलाञ्छाल्मली कु सुमशङ्कामुपजनयतः कांश्चिदुद्भिद्यमानपक्षतया नलिनसंवर्तिका-नुकारिणः कांश्चिदर्कफलसदृशान्कांश्चिल्लोहितायमानचञ्चुको-टीनीषद्विघटितदलपुटपाटलमुखानां कमलमुकुलानां श्रियमुद्व-हतः कांश्चिदनवरताशिरःकम्पव्याजेन निवारयत इव प्रतीका-रासमर्थानेकैकतया फलानीव तस्य वनस्पतेः शाखान्तरेभ्यः कोटरेभ्यश्च शुकशावकानग्रहीत् । अपगतासूंश्च कृत्वा क्षिता-वपातयत् ।

2 (नेपथ्ये कलकलः) । रे रे संकरघराधिवासिणो जण-वदा एसो क्खु जोव्वणारम्भगव्वसंभरिददुव्विसहामरिसरोसव-इअरबलामोडिअविहडिदुग्घाडिदलोहपञ्जरणिबद्धसिङ्घलाणि-रोहपडिभङ्गसंकलिदाणिअलीलाविलासुव्वेल्लन्तबहलुत्तुङ्गलङ्गल-विअडवेजअन्तिआडम्बरुद्दामसरीरसंणिवेसो मडादो अवक्कमि-

अ.... कठोरणहरकप्परक्कमणणिद्दअदारिदजन्तुगत्तावअवप्प-उत्तरत्तकद्दमिअगइवहो दुद्धसद्दूलो कुविअकअन्तलीलाइदं क-रेदि॥ विष्वग्वृत्तिर्जटानां प्रचलति निविडग्रन्थिनद्धोऽपि भारः संस्कारक्काणदीर्घं पटु रटति कृतावृत्तिखट्वाङ्गघण्टा। ऊर्ध्वं धू-नोति वायुर्विवृतशवशिरःश्रेणिकुञ्जेषु गुञ्जन्नुत्तालः किङ्किणी-नामनवरतरणत्कारहेतुः पताकाः॥

(कामन्दकी) वत्स। यत् प्रागेव मनोरथैर्वृतमभूत् कल्या-णमायुष्मतोस्तत्पुण्यैर्मदुपक्रमैश्च फलितं क्लेशोऽपि मच्छिष्य-योः। निष्णातश्च समागमोऽपि विहितस्त्वत्प्रेयसः कान्तया संप्रीतौ नृपनन्दनौ यदपरं प्रेयस्तदप्युच्यताम्॥

(माधवः)। (सहर्षं प्रणम्य) भगवति। अतःपरमपि प्रि-यमस्ति तथापीदमस्तु भगवतीपादप्रसादात्। सन्तः सन्तु नि-रन्तरं सुकृतिनो विध्वस्तपापोदया राजानः परिपालयन्तु वसु-धां धर्मे स्थिताः सर्वदा। काले सन्ततवर्षिणो जलमुचः सन्तु स्थिराः पुण्यतो मोदन्तां घनबद्धबान्धवसुहृद्गोष्ठीप्रमोदाः प्रजाः॥

8. तावच्चन्द्रबलं ततो ग्रहबलं ताराबलं भूबलं तावद्रो-गवियोगमन्त्रमहिमा तावत्कृतं पौरुषम्। तावद्वाञ्छितमर्थसि-द्धिसहितं तावज्जनः सज्जनो यावत्पुण्यमिदं नृणां विजयते पु-ण्यक्षयात्क्षीयते॥ दुराराध्यः स्वामी तुरगचलचित्ताः क्षितिभु-जो वयं च स्थूलेच्छाः सुमहति पदे बद्धमनसः। जरा देहं मृत्युर्हरति सकलं जीवितमिदं सखे नान्यच्छ्रेयो जगति विदु-षोऽन्यत्र तपसः॥ नीत्वोच्चैर्विक्षिपन्तः कृततुहिनकणासारस-ङ्गान्परागान्कौन्दानानन्दितालीनतितरसुरभीन्भूरिशो दिङ्मुखे-षु। एते ते कुङ्कुमाक्तस्तनकलशभरास्फालनादुत्पतन्तः पीत्वा शीत्कारि वक्त्रं शिशुहरिणदृशां हैमना वान्ति वाताः॥

II. Translate into Sanskrit :—

When the Vedic people advanced from their abodes in the Punjab further to the south, drove the aborigines into the hills, and took possession of the broad tract of country lying between the Ganges, the Jumna, and the Vindhya range; the time had arrived when the relations between king and priest were rapidly changed. Most of those petty princes who had descended from the north with their tribes disappeared, and contests arose for the supreme dominion. This era forms the principal subject of the Mahābhārata, the war between the descendants of Pāṇḍu and Kuru. In this disturbance power naturally fell into the hands of those who did not directly possess any authority, and the priestly races and their leaders now rose to a higher rank It may easily be supposed that they and their families, already honoured as the confidential followers of the princes, would frequently be able to contrive means to ensure the success to their chief. Considering the intellectual influence which this class possessed and the religious feeling of the people, it is not difficult to conceive that in such times powerful communities arose among the domestic priests of petty kings, that they obtained the highest position in every condition of life, and that they developed into a caste, which began to look upon secular authority as derived from their own power and to be conferred at their will.

III. 1. What linguistic conclusions can be drawn from the dialect in which the edicts of As'ōka were written, and in what does their historical importance consist?

2. What words occurring in Pāṇini can be connected with the Mahābhārata, and when and where does the first evidence of the existence of this epic occur?

3. What is understood by the Kavi literature, and where was it found? What evidence points to an Indian origin of the Sanskrit drama? Name the principal *nâtakas* as well as their authors.

4. What is the peculiarity of Pāṇini's grammatical system? Mention some grammarians who preceded him. Are his birthplace and the time of his life known? If so, name them.

Saturday, 22nd November, 10 a.m. to 1 p.m.

LATIN: TEXT-BOOKS AND GRAMMAR.

I. (1) Render into equivalent idiomatic English the following expressions from your text-books; (2) supply the necessary word where there is an ellipse; (3) derive the italicised words:—Nusquam pedem. *Macte* virtute! Tu, quantus quantus, nil nisi sapientia es. *Medius* fidius. Non posteriores feram. Quid istic? cedo ut melius dicas.

II. 1. Give the first person singular *only* of the future perfect indicative active, and the supine in "*um.*" (where found) of the verbs from which the following come:—adscisci, amicitur, conniventem, differt, facesso, molendo.

2. Parse—abstraxe, indepta, dispessis, dissita, senectis, siet.

III. 1. Remark on the following words :—cohibessit, cunctarier, noenu, vementi.

2. Scan the following lines :—

(a) Esse animam cum animo coniunctam quæ cum animo vi.

(b) Idque sibi solum per se sapit, id sibi gaudet.

3. How are the following words spelt in Lucretius and with what consequent change of quantity :—dissolvi, tenuis, souare, vacillo.

IV. Quote, if possible, from your text-books, or construct sentences, to illustrate (1) the use of pessum, quotus ; (2) the cases or constructions employed with alienus, caveo, interest, ergo *(preposition)*.

V. 1. Translate and write explanatory notes on—singula nummum millia ; denis in diem assibus ; decies sestertium ; solstitiali die.

2. Give a brief sketch of the Roman method of reckoning time.

VI. 1. Analyse philologically the forms—deabus, maximus, amaveris, regeremus.

2. Give the meaning and derivation of—ambitio, arbiter, mancipium, olim, privignus, prosa, sestertius, solennis

VII. 1 Express in Latin :—*(a)* He said that the more cautiously I went, the sooner I should arrive *(b)* you are too lazy to be able to accomplish such a task. *(c)* I am not sure whether he is to blame for the non-completion of the bridge. *(d)* He never spoke without blaming me for not having complied with the young man's wishes. *(e)* Instead of being true the report is not even probable.

2. Re-write in the form of Oratio Obliqua :—

Cur enim primo concionis die ferrum illud, quod pectori meo infigere parabam, detraxistis, O improvidi amici ! Melius et amantius ille qui gladium offerebat Cecidissem certe nondum tot flagitiorum exercitui meo conscius ; legissetis ducem, qui meam quidem mortem impunitam sineret, Vari tamen et trium legionum ulcisceretur.

VIII. Translate the following and account for the case or mood of the italicised words :—(1.) Agelli est hic sub urbe paulum quod locitas foras : huic demus *qui fruatur*. (2.) Ah, me miseram ! quid iam credas ? aut quoi credas ? nostrumne *Aeschinum* ? nostram *omnium* vitam, ...(3.) Nam medio montium et paludum porrigebatur planities ; quæ tenuem aciem *pateretur*. (4.) Aut qui primus, quod summæ *sapientiæ* Pythagoræ visum est, omnibus rebus imposuit nomina.

IX. What persons and what events are alluded to in the following passages ? Give a short explanation in each case :—(1.) " En Varus, et eodem iterum fato vinctæ legiones !" (2.) Non enim cum socero bellum gessisset ; non imparatus arma sumpsisset ; non domum reliquisset ; non ex Italia fugisset ; non, exercitu amisso, nudus in servorum ferrum et manus incidisset. (3.) " Propino," inquit, " hoc pulcro Critiæ." (4.) Heracleotes Dionysius, quum a Zenone fortis esse didicisset, a dolore deductus est.

X. 1. Give a brief summary of the chief arguments used by Lucretius in support of his theory of " the soul's mortality."

2. " Unde in Germanicum favor et spes eadem." Mention

the causes that contributed to render Germanicus popular with the people and hateful to Tiberius.

SATURDAY, 22ND NOVEMBER, 2 TO 5 P.M.

LATIN: TRANSLATION.

I. Translate into English —

1. MI. natura tu illi pater es, consuliis ego.
DE. tun consulis quicquam? MI. a, si pergis, abiero.
DE. sicine agis? MI. an ego totiens de eadem re audiam?
DE. curæst mihi. MI. et mihi curæst. verum, Demea,
curemus aequam uterque partem: tu alterum,
ego item alterum. nam ambos curare propemodum
reposcere illumst quem dedisti. DE. a, Micio.
MI. mihi sic videtur. DE. quid istic? si tibi istuc placet,
profundat, perdat, pereat, nil ad me attinet.
iam si verbum unum posthac . . . . . MI rursum, Demea,
irascere? DE an non credis? repeto quem dedi?
ægrest: alienus non sum: si obsto . . . . em, desino
unum vis curem, curo. et est dis gratia,
quom ita ut volo est; iste tuos ipse sentiet
posterius: nolo in illum gravius dicere

2. DE Defessus sum ambulando: ut, Syre, te cum tua
monstratione magnus perdat Iuppiter!
perreptavi usque omne oppidum: ad portam, ad lacum,
quo non? neque illi ulla fabrica erat nec fratrem, homo
vidisse se aibat quisquam. nunc vero domi
certum obsidere est usque, donec redierit.
MI. ibo, illis dicam nullam esse in nobis moram
DE sed eccum ipsum: te iam dudum quaero, Micio.

3. Nec Tityon volucres ineunt Acherunte iacentem
Nec quod sub magno scrutentur pectore quicquam
Perpetuam ætatem possunt reperire profecto.
Quamlibet immani proiectu corporis exstet,
Qui non sola novem dispessis iugera membris
Optineat, sed qui terrai totius orbem,
Non tamen aeternum poterit perferre dolorem
Nec præbere cibum proprio de corpore semper.
Sed Tityos nobis hic est, in amore iacentem
Quem volucres lacerant atque exest anxius angor
Aut alia quavis scindunt cuppedine curæ.
Sisyphus in vita quoque nobis ante oculos est
Qui petere a populo fasces sævasque secures
Imbibit et semper victus tristisque recedit
Nam petere imperium quod inanest nec datur unquam,
Atque in eo semper durum sufferre laborem,
Hoc est adverso nixantem trudere monte
Saxum . . . . . .
Sed metus in vita poenarum pro male factis
Est insignibus insignis, scelerisque luella,

Carcer et horribilis de saxo iactu' deorsum,
Verbera carnifices robur pix lammina taedae;
Quae tamen etsi absunt, at mens sibi conscia factis
Praemetuens adhibet stimulos terretque flagellis
Nec videt interea qui terminus esse malorum
Possit nec quae sit poenarum denique finis
Atque eadem metuit magis haec ne in morte gravescant.
Hic Acherusia fit stultorum denique vita.

4. Germanicus cedentem in avia Arminium secutus, ubi primum copia fuit, evehi equites, campumque, quem hostis insederat, eripi iubet. Arminius colligi suos et propinquare silvis monitos vertit repente. Tunc nova acie turbatus eques; missaeque subsidiariae cohortes, et fugientium agmine impulsae, auxerant consternationem; trudebanturque in paludem gnaram vincentibus, iniquam nesciis, ni Caesar productas legiones instruxisset. Inde hostibus terror, fiducia militi; et manibus aequis abscessum . . . . . Angustus is trames vastas inter paludes, et quondam a L. Domitio aggeratus; cetera limosa, tenacia gravi caeno, aut rivis incerta erant; circum silvae paulatim accolives, quas tum Arminius implevit, compendiis viarum et cito agmine onustum sarcinis armisque militem cum antevenisset

5. At id ipsum odiosum est sine sensu esse. Odiosum, si id esset carere. Quum vero perspicuum sit, nihil posse in eo esse, qui ipse non sit: quid potest esse in eo odiosum, qui nec careat, nec sentiat? Quamquam hoc quidem nimis saepe: sed eo, quod in hoc inest omnis animi contractio ex metu mortis. Qui enim satis viderit, id quod est luce clarius, animo et corpore consumpto totoque animante deleto, et facto interitu universo, illud animal, quod fuerit, factum esse nihil, is plane perspiciet, inter Hippocentaurum, qui nunquam fuerit, et regem Agamemnonem nihil interesse, nec pluris nunc facere M. Camillum hoc civile bellum, quam ego, illo vivo, Romam captam. Cur igitur et Camillus doleret, si haec post trecentos fere annos eventura putaret? et ego doleam, si ad decem millia annorum gentem aliquam urbe nostra potituram putem?

6. Sed videsne, poetae quid mali afferant? Lamentantes inducant fortissimos viros: molliunt animos nostros: ita sunt deinde dulces, ut non legantur modo, sed etiam ediscantur. Sic ad malam domesticam disciplinam vitamque umbratilem et delicatam quum accesserunt etiam poetae, nervos omnis virtutis elidunt. Recte igitur a Platone educuntur ex ea civitate, quam finxit ille, quum mores optimos et optimum reipublicae statum exquireret. At vero nos, docti scilicet a Graecia, haec et a pueritia legimus et discimus· hanc eruditionem liberalem et doctrinam putamus.

(Not from text-books.)

7. Theophrastus moriens accusasse naturam dicitur, quod cervis et cornicibus vitam diuturnam, quorum id nihil interesset, hominibus, quorum maxime interfuisset, tam exiguam vitam dedisset: quorum si aetas potuisset esse longinquior, futurum fuisse ut, omnibus perfectis artibus, omni doctrina hominum vita erudiretur. Querebatur igitur, se tum, quum illa videre coepisset, exstingui. Quid? ex ceteris philosophis nonne optimus et gravissimus quisque

confitetur multa se ignorare, et multa sibi etiam atque etiam esse discenda? Neque tamen, quum se in media stultitia, qua nihil est peius, hærere intelligant, ægritudine premuntur. Nulla enim admiscetur opinio officiosi doloris.

II. Translate into Latin:—

8. On this gloom one luminary arose, and Ireland worshipped it with almost Persian idolatry; her true patriot—her first—almost her last. Sagacious and intrepid, he saw, he dared: above suspicion, he was trusted; above envy, he was beloved; above rivalry, he was obeyed His wisdom was practical and prophetic—remedial for the present, warning for the future. He first taught Ireland that she might become a nation, and England that she must cease to be a despot

SATURDAY, 22ND NOVEMBER, 10 A.M. TO 1 P.M.

PERSIAN: TEXT-BOOKS AND GRAMMAR.

I. 1. What are the peculiar characteristics by which the Persian of the سرگذشت وزیرخان لکوان is distinguished from that of the انوار سهیلي or the گلستان ?

2. Give a brief account of the life of طغرا and a short description of any two of the following رسائل :—

معیارالادراک - کنزالمعاني - مرتفعات - مجمع العرائب - تاج المدائح *

3. Quote four couplets from the رسائل طغرا written in praise of Hafiz.

II. 1. By whom, to whom and under what circumstances were the following words spoken:—

(۱) خان آدم گذاشتر هرجا ر بیند بیدات کند بگیرند ر برند بکشدت (۲) الحمد لله آنقدر مشعلہ داري کر نمي توان شما را دید (۳) مثل کبک سرت را زیر برف کردۂ *

2. Point out and explain the نزاکت in

نوازش رهنمائي لطفش دیدۂ فکر مقام شناشان تحریر سرشار ناریک بیني *

3. To what do the underlined words in the following refer:—

جهان ر گهر گوهري نو نهاد

III. 1. Paraphrase in *idiomatic* Persian:—

ا ر طفل غنچه گریک حرف گفتي
ز مشق گفتگو شنها نخفتي

۲ کباب تو از ران آهوی تو
نمک ریخته آب را در جگر
۳ دبیری قلم رسته از پشت او
قلمهای مشکین در انگشت او
۴ دهن تا کشاده لب آبگیر
کز آید لب سبزه را بوی شیر
۵ بهر شمع محفل او در سحرگاه طرب
مي کند فانوس داري گرد باد از آستین
۶ در کشوریکه تیغ خیالت علم شود
روید غلاف شرم ز شمشیر آفتاب

(۷) از پایداري سایهٔ قصر کلاهش تیغ آفتاب وقت صبح ضمیران رخنه دار (۸) در کمانداري اگر به کاکل ربائي تیر پرداخته - از جمع اندازي هرمورا زلف پریشاني ساخته (۹) راه تلفظش در مطول بر کوچهٔ منقار بلبل است - وزینت تکلمش در مختصر از طلاي خردهٔ گل (۱۰) مشق سخن هرچند بمرتبهٔ نرسیده که انشا را قطعه توان خواند از انجا که نهایت نمک ناخطش هست آن نیست که اگر سطري چند بصفحهٔ تعریف او در آید مبتدیان نظم سرمشق خود نساخته برلوح زبان ندارند *

2. Scan the 5th couplet in the above extract.

3. Analyse:—

حسابي که فرمود رای بلند * کس از پیش بیني نیابد گزند

IV. 1. What is the meaning of مرزا when used as an affix and when used as a prefix?

2. Give the exact number of the خطي چند and their names.

بدان جام زانجا که پیوند بود * مسلسل کشیدهٔ خطي چند بود

3. Write brief notes on * سبعهٔ معلقات - بلیناس - فرا مرز

V. Give 1. the various explanations of:—

ز شمشیر برکشته جائي نبود * که در غار او اژدهائی نبود
اگر نقش مردم نخواني شگوف * بگوئي که مردم چنین ست حرف
نگوگش زمین را ثریا کند * هلاک نهنگان در یا کند

2. in simple Persian the meaning of the following words and phrases:—

بلبل آمل - درزگیري - لیفہ - کمند و حدت - سیاہ چاہ - کژہ - داراي شب اندر روز - چشم عمان - دل کان - نیم لنگ - بوالحکیم - قلم پاک کن *

3. two or more meanings of each of the following words :—

تن زدن - طرف - کار *

4. the primary and secondary meanings of :—

صدر - عجز - عروض - ردیف - ملت - گیرو دار - سلیم - گردن کلفت *

5. the derivation (explaining each part) of :—

کوتوال - نژادہ - جلاد - بلهوس *

VI. 1. Write brief notes to explain the allusions in the following three couplets :—

۱ شد پارہ بانگشت نوازندگیش
در مجلس اعجاز نمائي دف ماہ

۲ تمهتن چو تنها کند ترک و تاز
برو دیو را دست گردد دراز

۳ کمند افگنم بر سر ژندہ پیل
ز خون بیخ روئین توارم ز نیل

2. Point out the صنائع لفظي و معنوي in the following extracts :—

(۱) بپایابي بحر نظم عنان سفینها بدست

(۲) دود بر هر طرف چون موج بحرین
ز چشم او رموز حکمت العین

(۳) ز قاموس بلاغت بسکہ در سفت
مطول را تواند مختصر گفت

(۴) جام می را نغمہ درکار است مطرب نالۂ
شیشہ با این بےزباني تا بکي قلقل کند

(۵) اثنا عشري گرو ز پاکان بردہ
صد خصل بکعبتین عرفان بردہ

(۶) پیوستہ بدین دو شش زدہ نقش مراد
در نرد عقیدہ هر کہ ایمان بردہ

3. Point out the exact force of را ; کہ and ، in the following :—

گل پریشاني چو بیند شکوہ را بلبل کند

خیال دو سر ہنگ در پیش داشت
جز آن خود کہ سرہنگي خویش داشت
کہ ایراني از رومي نیش خورد
بقائم کجا ریزد اندر نبرد

VII. Mention (1) the various words Nizami used to describe the morning, the night, the sun, and the sky, giving in each case the substance of the context; (2) the benefits said to be derived from اصول دین (4) the (عقول عشرہ) دہ عقل (3) the حبس نفس (5) five of the Hindustani words used by Toghra in the رسائل.

VIII. Give an instance from the سرگذشت وزیر خان لکران of (1) an infinitive used substantively; (2) the perfect tense used for the present; (3) the imperfect indicative for the subjunctive.

IX. Explain the following terms.—

فرد - مطلع - حسن المطلع - مقطع - قطعہ بند - مستزاد - قطعہ - قافیۂ شائگان *

X. Enumerate, with examples, the various تصرفات شاعري

Saturday, 22nd November, 2 to 5 p.m.
PERSIAN: TRANSLATION.

I. Translate into Persian :—

1. The death of the Kermani was, in truth, a great gain to the cause of the rebellion. It moved out of the way one who might have been a dangerous rival of Abu Muslim, and made the latter the sole and unquestioned head of the movement; He was a man fit for the crisis. "Low in stature," writes a contemporary, "of a tawny complexion, with handsome features and engaging manners, he was never observed to laugh; the gravest events could hardly disturb the serenity of his countenance; he received news of the most important victories without expressing the least symptom of joy; under the greatest reverses of fortune he never betrayed the slightest uneasiness; and when angered he never lost his self-control. This impassive exterior concealed a heart as hard as flint and pitiless as death. He never spared an enemy or forgave a fault The inhabitants of Khorasan trembled before him and the taxes were paid with a regularity and promptitude long unknown

2. There is always a fresh breeze in the desert, except when the terrible hot wind blows: and the air is more elastic and pure than where vegetation produces exhalations, which, in all hot climates, are more or less heavy and injurious. The air of the desert is always healthy, and no race of men enjoy a greater exemption from weakness and disease than those who spend their lives in thus wandering to and fro free from the cares and troubles of crowded cities

II. Translate into English:—

(۱) چنین ست رسم این گذرگاه را
که دارد بآمد شد این راه را
یکی را در آرد به هنگامه تیز
یکی را به هنگامه گوید که خیز
مکن زیر آن لاجوردي بساط
باین مهرهٔ کهربا گون نشاط
که رویت کند کهربا وار زرد
کبودت کند جامه چون لاجورد
چو مرغ از پي کوچ بر کش جناح
مشو مست راح اندرین مستراح
فلک نیست یکسان هم آغوش تو
طرازش دورنگ است بردوش تو
گهت چون فرشته بلندي دهد
گهت تا ددان دست بندي دهد
شبانگه بنا نیت نارد بیاد
کلیچه چو گردون دهد بامداد
چه باید درین هفت چشمه خراس
ز بهر جوي چند بردن سپاس

(۲) درجشن سالگرهش رشتهٔ عمر آزادگان را طول امل گرفتار عقده شدن - و در هنگامهٔ و زنش گوهر حیات سبکروحان را گراني اُمید پاسنگ میزان گشتن - بذوق ایوان جلوسش سوزني سفیدهٔ صبح بطول و عرض پرتو دل بسته - و بشوق مسند سلطنتش گاو تکیهٔ بستر فلک به علاقهٔ مهر و ماه پیوسته - از آشنائي نسیم غورش موج آب گهرته نشین - و از رهنمائي صیت و قارش دست آتش یاقوت در آستین - بمهرهٔ طالعش بالا نشیني تختهٔ امکان دست داده - و بنقش مرادش کعبتین دو عالم یکجهت افتاده - سیل عطایش از گرداب حلقه در گوش دریا کرده - و بشتر سخایش از رگ کان خون امساک برآورده *

(۳) خدنگ غمزہ از عیب خطا پاک
نکردہ سایہ اش ہم نو بر خاک
نگردي تا دلا داغ از ندامت
بکن قصد اقامت تا قیامت
درکشتي حمایتش از موج باک نیست
گر بردۂ حباب شود صرف باد بان
باید بروی دوست دود بہر دفع خصم
گرزش عبث نگشتہ سبک با و سر گران

(۴) از استماع مژدۂ ظہور فتوحات عظمي کہ نظر بعالم اسباب صورت صورت پذیرفتنش باین تعجیل وتسہیل در آئینۂ ارباب صورت بہیچ صورت صورت نمي بست معني إنتعاش بے انتہا وانبساط لا تعد ولا تحصیٰ صورت نما گشت - وچون در کارگاہ اسباب بحسب مشیت مسبب الاسباب ظہور ہر امر وابستۂ سببی است سبب ظہور این امر خطیر غیر از تائید افضال واہب ذوالجلال ویمن توجہ عدو مال آن برگزیدۂ ایزد متعال در اندیشۂ مخلصان صداقت پیشہ نگذشت - وقوع این مقدمات کرامت آیات بر جمیع خیر طلبان جناب فیضمآب مبارک و ہمایون - و مقدمۂ فتوحات میمنت سمات و ترقیات روز افزون باد - بالنبي و آلہ الامجاد *

SATURDAY, 22ND NOVEMBER, 10 A.M. TO 1 P.M.

URDU: TEXT-BOOKS AND GRAMMAR.

I. 1. فسانۂ عجائب کي وجہ تالیف بکمال اختصار مرقوم ہو-
2. مرقوم الذیل شعرا سے کسي ایک کا تذکرہ لکھو—
غالب - ذوق - مومن - درد *

II. 1. نثر و نظم ذیل کا مطلب سلیس ہندوستاني مین تحریر ہو-
دھرم مورت یہہ بالک رہہ - جلد راج پر براجے - پرتھمي مین دھوم مچے - مگر پدرھوین برس مشتري بارھوین آئیگي - سنیچر پانون پڑیگا - ایک پکھیرو سوی کے برن مین ہاتھہ آئیگا - توریا کي کھٹ پٹ سے وہ بچن سنائیگا - کہ راج پاٹ چھڑا دیس

بدیس لیجائیگا - پھر ایک منکہ ٹھا کر کا سیوک کربا کرے راہ لگائے - کوئي کلنگن لو بھي ہو کسٹ دکھائے - وہاں سے جب چھٹے رانی ملے مہا سندر وہ چرن پر پران وارے - پتا اوسکا گیانی گن کي تکھتي دے - اُس سے کئي ملچہ مارے - پر ایک ہتي من کا کپٹي استري پر دوچت ہو کہٹائي کرے - جھجہ پڑین - پرناري لڑین - استری تین ہو - دو کا پرمان رہے ایک کي ھین ہو *

مدح سے ممدوح کي دیکھي شکوہ
یان عرض سے رتبۂ جوہر کھلا
یہہ عذر امتحان جذب دل کیسا نکل آیا
مین الزام اسکو دیتا تھا قصور اپنا نکل آیا
ہمارے خون بہا کا غیر سے دعوا ہے قاتل کو
یہہ بعد انفصال اب اور ہي جھگڑا نظر آیا
ہو گیا علم حصولي تھا حضوري مجھکو
تھا مرا ذہن نہ محتاج حصول صورت
گر نہ دے صاحب جوہر کو مقدر عزت
جوہر فرد ہي بالفرض تو کیا بے قسمت
روي نیکو نہ ہي نري خوی نیکو
کہون کیونکر نہ اَلحُسنُ اِلَي الحُسنِ یَمیل

2 تیسري بیت کي ترکیب کیجئے *

3 ابیات مرقومۂ بالا میں علم حصولي - علم حضوري - جوہر فرد کے اصطلاحي معنے کیا ھیں ؟

III 1 بروج مرقومۃ الذیل کے اردو نام کیا ھین ؟

حمل - ثور - جوزا - سرطان - اسد - سنبلہ - قوس - عقرب - جدي - دلو - حوت - میزان *

2 ان سات ستارون کے انگریزي نام کیا ہین ؟

شمس - قمر - عطارد - مشتري - زہرہ - مریخ - زحل *

IV. 1. اشعار ذیل کن کے طبع زاد ہیں ؟

رہگئي عزت خموشي کے سبب سے شکر ہي
زہر دیتا آسمان مجھکو جو شربت مانگتا
فراہم زر کا کرنا باعث اندوہ دل ہووے
نہین کچھہ جمع سے غنچہ کو حاصل جزپریشاني
واعظ کسے ڈراے ہي یوم الحساب سے
گریہ مرا تو نامۂ اعمال دھو گیا
تجھکو مسجد ہي مجھکو میخانہ
واعظا اپني اپني قسمت ہي

2. اشعار ذیل فسانۂ عجائب کے کس محل مین استعمال کئے گئے ہین ؟

نر سدھہ بدھہ کي اور نہ صٹکل کي لي
نکل گھر سے بس راہ جنگل کي لي
ظاہر مین گرچہ بیٹھا لوگون کے درمیان ہون
پر یہہ خبر نہین ہی کہ مین کون ہون کہان ہون
یہہ کہکر وہ اسطرح غش کر گیا
کہے تو کہ جیتے ہي جي مرگیا

V. سوالات ذیل سے کسي دو کے جواب لکھئے —

1. ترک علائق کا بیان جو منتخبات اردو مین ہے تحریر ہو *
2. کل کے گھوڑے کا مختصر حال لکھو *
3. فسانۂ عجائب سے چار ضرب الامثال مع تشریح رقم کرو *
4. کسلئے خواجہ سرا ملک زرنگار کو شہر بحوست اثر ٹھہرایا
5. خواجہ سرا نے کہا کہ مجھہ سے بڑي غلطي ہوي - بتلاؤ کہ وہ کونسي غلطي ہي ؟

VI. 1. ہر ایک مرقوم الذیل شعر سے کیا سال تاریخ نکلتا ہي *

نال کٹنے کے ساتھہ ہاتف نے
کہي تاریخ دختر مومن
مین نے بھي زیادہ پھر تاریخ
تشریف وزیر پر کیا پیل

2. مرقومۃ الذیل معمیات سے کیا نام نکلتے ہین اور کسطرح ؟

بنے کیونکر کہ ہي سب کار الٹا
ہم الٹے بات اُلٹي یار الٹا

قید بے حد ہے خانہ بے در ہی
تو بھي صاحب علاج سے ملئے

کیفیت وصال بس اب کچھہ نہین رہي
کیونکر نہون ملول مین شب کچھہ نہین رہي

مرجا رقیب رشک سے گو ہي وصال یار
ہي اسکي چشم شوخ ادا میرے واسطے

ازل سے جي لگا سیر حاصل ہي
نم سرشک سے شاداب گلشن دل ہی

3. یہہ مصراع کیلے بحور و اوزان مخلعہ مین موزون ہي ؟ تقطیع کرکر بتلاؤ —

جان تیرے غم مین ہی دي اب تو جو کچھہ ہو سو ہو

4. اِس بیت مین تین غلطیان بتلاؤ —

اس عہدے سے کوئي بھي نکلا نہین
سوا عجز درپیش یان کچھہ نہین

VII. ابیات ذیل مین کیا صنائع ہین ؟ اگر کسي بیت مین تلمیح ہو تو اسکي تشریح کیجئے —

ہوا مسجود ملائک یہہ ظلوم اور جہول
یعنے انسان قوي لخت ضعیف الخلقت

چاہ بابل وہ ذقن اور وہ زلف کا عکس
دل گرفتار عذاب اسمین ہو ہاروت صفت

فل ہوا زہد کا قلیا ہوي زاہد کي تمام
سنتے ہي قلقل میناے شراب صحبت

جز نہ سپہر ہین مرے دشمن تو اور بھي
لیکن بڑے غضب یہي دو تین چار ہین

VIII. 1. ارکان کے اجزا کتنی ہین اور کونسے ؟
2. ان بحور کے نام لو جو مسدس ہی آتے ہین ؟
3. رکن سالم اور مزاحف - صدر اور عروض - ابتدا اور ضرب - ایطاء خفي اور جلي مین کیا فرق ہي ؟

IX. 1. رباعي کن بحور سے مخصوص ہي ؟ اور اسکے کتني وزن ہين ؟ اور ايک رباعي مين اوزان مختلفہ کا جمع ہونا جائز ہي يا نہين ؟

2. ہر ايک مرقوم الذيل وزن مين کسي شاعر کا مصراع لکھئے—

مفاعيلن ۴ بار ۔ مفعول مفاعلن مفاعيل ۔ مفعول فاعلاتن ۲ بار ۔ مفتعلن مفاعلن ۲ بار *

SATURDAY, 22ND NOVEMBER, 2 TO 4 P.M.

URDU TRANSLATION.

I. Translate into Urdu :—

"There is one purely intellectual benefit from a knowledge of languages, which I am specially desirous to dwell on. Those who have seriously reflected on the causes of human error, have been deeply impressed with the tendency of mankind to mistake words for things. We know how common it is to use words with apparent propriety, and to accept them confidently when used by others, without ever having had any distinct conception of the things denoted by them. To quote again from Archbishop Whately, it is the habit of mankind to mistake familiarity for accurate knowledge As we seldom think of asking the meaning of what we see every day so when our ears are used to the sound of a word or a phrase, we do not suspect that it conveys no clear idea to our minds, and that we should have the utmost difficulty in defining it, or expressing, in any other words, what we think we understand by it. Now it is obvious in what manner this bad habit tends to be corrected by the practice of translating with accuracy from one language to another, and hunting out the meanings expressed in a vocabulary with which we have not grown familiar by early and constant use. I hardly know any greater proof of the extraordinary genius of the Greeks, than that they were able to make such brilliant achievements in abstract thought, knowing, as they generally did, no language but their own."

"Man alone has been compelled to open out a way for himself, to mount upwards by his own labour and exertions, by the mighty power of his inventive spirit, and through thousands of errors and byways, from the first rude conditions of a wild life of nature to the heights of civilization. The history of human culture shows what man is, and what he is capable of, what has been reached, and what is still wanting But whatsoever the mind of man may have produced, from the most primitive work-tools carved out of stones and rocks, to the wonderful machinery of modern times ; from the first rude outlines, copied from the shadows of objects, to the wonders of sculpture and painting, from the rude knowledge of the relations of space and size to the measurement of the heavens ; in all that the human mind has accomplished in the way of knowledge, it is nature that has given the direction-line and the law."

II. Translate into English :—

۱—جب شاہزادے نے چلنے کا قصد کیا ملکہ نے کہا اگر ہرج متصور نہو میرے والد سے ملاقات کرلو - یہہ امر فائدے سے خالي لا اُنالي نہوگا - جان عالم نے کہا بہتر ہي - بہروہي خواص ہمراہ ہوي - جب وہاں پہنچا دیکھا نوریانے بے ریا بچھا ہي - مصلے پر ایک مرد مہذب بذکر حق مشغول دا دل ملول بیٹھا ہي - یہہ رسم سلام بجا لایا - اسنے دعاے خیر دیکر ہاتھہ بڑہایا - چھاتي سے لگایا - قریب بٹھایا - پھر فرمایا "ما جراے شب تیرہ ملکہ بر روشن ہي - ایسي بد قسمت دوسري خلق مین خلق نہین ہوي - ایفاے وعدہ کروگے اللہ بھلا کریگا - وگرنہ یہہ رنج بڑا ہي - دیکھئے اوسکا کیا حال کریگا - دلداري جگرفگارون کي عیادت مرض محبت کے بیمارونکي جوانمردون پر فرض ہي - شہزادے نے سرجھکا عرض کیا آپ کیون محجوب فرماتے ہین مجبور ہون - اس عزم سے مین گھر چھوڑا - عزیزون یگانون سے ترک کر شہر سے منہہ موڑا - وہ کہینگے سخت کم ہمت و بے جرات تھا - راہ مین آسایش ملي بیٹھہ رہا - جھوٹا تھا ناحق عشق کا دم بھرا - پیر مرد نے فرمایا مرحبا جزاک اللہ یہي شرط جوانمردي و ثابت قدمي ہي - ہمین بھي تمہارے اس عزم سے ایفاي وعدے کي امید ہوي - پھر ایک لوح عنایت کي - اور کہا جب کوئي مہم سخت رونما ہو نظر فال اوس حال مین اسے دیکھنا - جو نکلے اسپر عمل کرنا - اللہ تعالی وہ مشکل سخت ایک آن کي آن مین آسان کریگا - تحفظ حافظ حقیقي سپردم - اللہ معکم ایما کنتم *

۲—سوز دل کا کیا کرے باران اشک
آگ بھڑکي منہہ اگر دم بھر کھلا
آوارگي نکہت گل ہي یہ اشارہ
جامہ سے وہ باہر ہي جو دیوانہ ہي اسکا
تواضع دشمن جانکي زیادہ قتل کرتي ہي
خم شمشیر بران کا یہ بھوڑا ناہي گردن کا

چشم وحشي کو اگر اپنے وہ دکھلائے تو ہو
چشم آہو سے ہرن نشاۂ جام وحشت
اولجھا ہي پاون يار کا زلف دراز مين
لو آپ اپنے دام مين صياد آگيا
ہي دوستي تو جانب دشمن نديکھنا
جادو بھرا ہوا ہي تمہاري نگاہ مين
دکھلا ريگي جلوہ نزاکت کہ ہي اونہين
دشوار چاک بردۂ حائل کو تھا منا
خواہش مرگ ہو اتنا نر ستانا ور نہ
دل مين پھرتيرے سوا اور بھي ارمان ہوگا

ـــ آج قلم کا دماغ پھولون کي خوشبو سے معطر ہي - کاغذ کا صفحہ آنکھہ کي سفيدي کي طرح منور ہي - نظر کا ڈورا رگ گل کي طور پر رنگين ہي - نگاہ کا رستہ گلدستے کے مانند بہارين ہي - کسواسطے کہ مجھے ايک باغ اور مکان کي صفت لکھني منظور ہي - جسکي سير سے چشم مردم مين نور ہي - اسکے صحن اور دالان مين خدا کي قدرت کا گل کھلا ہي - چمن اور ميدان مين صانع کي صفت کا تماشا ہي *

SATURDAY, 22ND NOVEMBER, 10 A.M. TO 1 P.M.

TAMIL: TEXT-BOOKS AND GRAMMAR.

I. காரைக்காலம்மையார் சரித்திரத்தையுங் குமரகுருப ரசுவாமிகள் சரித்திரத்தையும் ஒவ்வொன்று பத்துப்பன்னி ரண்டு வரிக்கு மேற்படாமல் மிகச்சுருக்கமாக எழுதுக.

II. (1) (a) திருநின்றசருக்கமென்ற பெயர் யாதுகாரணம் பற்றி வந்தது? (b) காரைக்காலமம்மையார் அனுசரித்த விசே ஷ தருமம் யாது? (c) அவர் செய்கைகளில் அறநெறிக்கு விரோதம்போலத் தோற்றுவதியாது? (d) அவர் செய்தருளி ய பாடல்கள் யாவை? (e) திருநீலநக்கனார் மகத்துவமடை ந்தது யாது செய்கைபற்றி? (f) நமிநந்தியடிகள் திருநாவுக் கரசரால் எவ்வாறு புகழப்பட்டிருக்கிறார்? (2) குமரகுருப ரசுவாமிகள் எத்தனை பிரபந்தங்கள் செய்தார்? (3) கூனிக்குமு கைகேசிக்கும் நடந்த வாக்குவாதத்தால் வரும் படிப்பினை யாது?

III. பின்வரும் மொழிகளின் கருத்தையும் அவற்றுள் ஒவ்

வொரு வகுப்பில் யாதாயினும் ஒரு சொல் வரும் அடியை யும எழுதுக. (1) தாய்கன, மம்மர், அருகந்தர்; (2) பித்தை, மனவு, பீர், வாக்கி; (3) நளி, இலச்சினை, புதவம, திசைத்த ல், இமிழ், வற்கலை; (4) கொட்க, ஓரார், கெழுதகைமை; (5) சொம், வச்சை, முட்டு, கரவலை.

IV. அகிமுத்தமெனபதன் சத்தார்த்தமென்ன? காசிக்கல ம்பகத்தில் அப்பதிக்கு வேறெனன பெயர்கள் வந்திருக்கின றன?

V. "தோகை யுயிர்முடிப்பான் றும்பைமுடிப் பானமத வேள் வாகை முடித்திடவும் வல்லனே" (1) (a) இதில் முடித் தல் என்னென்ன பொருளில் ஆளப்பட்டது? (b) தும்பையு ம் வாகையும் யாரால் எக்காலத்து முடிகசப்படுவன? (2) "எரியினின-றுருகும பசும்பொனனுக் கோர்மாற்றுண் டேலுரையாய்" இதிலுள்ள சொற்சிறபபுப் பொருட்சிறப்பு க்களைக் காட்டுக.

VI. பின் வருவனவற்றின அர்த்தத்தைத் தெளிவாக்குக:— "தீயை-வாய்ந்த கற்புட ஞனகென வளர்ப்பர்" "ஐமபடை யின-பூட்டார் மார்பிற் சிறிய மறைபபுதல்வன்" "மத்தம் புல்லிய கயிற்றின மற்றவர்-அத்தலைவிடி னித்தலைவிடார்" "அவனறஞலே பொறிமுத லடர்கப்பட்டான" நின் மட மக ளெனக்கு மாமான-சூட்டொடு கண்ணி யனறே" "பூவ லய மினறுதனி யன்றபொது வென்ப" "ஒழியும படைக ளென்ரே வெனனைக் காயுமற் ரேர்விழியே" "எற்ரு விழு மந்தரும்"

VII. பின்வரும் வினுக்களுக்கு எழுதும் விடையோடு நியா யமுங் கூறுக:—"மாதர்கள் கற்பினமிக்கார் கோசலை மன த்தையொத்தார் வேதியர் வகிட்டனனத்தார் வேறுள மகளி ரெல்லாஞ் சீதையை யொத்தார்" வேறுள மகளிரென்றது யாரை? "கணைகடிகைப் பத்துநிறைத்தா னினித்தொடுக்கிற் பாவைக்கொருநிக் கிலைபோலும்" கணைகள் திகைப்பத்தா அல்லது கணைகடிகைப்பத்தா? ஏன பகரம் மிகுந்தது? போ லும் எனனசொல்? "பாலிடும் மலர்ப்பஞ்சணைமேல்" இதி ற் பொருள்விரோதமில்லையா? பகரம மிகாவிடில் எவ்வாறு பொருளபடும்? "ஊரொரால்." ஓராலா அல்லது ஓரார? ஓராலென்னும் பதம் எனன உறுப்புக்கள்பெற்று முடியும்? "சலத்தாற பொருள்செய்தேமார்த்தல்." ஏமார்த்தலா ஏ மாற்தலா? ஏமாத்தலென்னுஞ் சொல்லுக்குக் காசிக்கலம் பகத்திலிருந்து ஒருதாரணங் காட்டுக.

VIII. (1) "பணையில் விளைந்த வெண்ணெல்லின பரப்பின் மீது படச்செய்ய, துணைமென் கமல மிடையிடையே சுடர் விட டெழுந்து தோறறுவன, புணர்வெண் புரிநூ லவர்வே

ள்விக் களத்திற் புனைந்த வேதிகைமேல், மணல்வெண் பரப்பி னிடையிடையே வளர்த்த செந்தீ மானுமால்." (2) "ஓஒதல் வேண்டு மொளிமாள்குஞ் செய்வினை-ஆஅது மெனனுமவர்." (3) "குருகை விடுத்தா ளெனக்குருகே கூறாய் சுகத்தை விடுத்தாளென் றருகு வளருஞ் சுகமேசென் றறையாய் நிறைநீர் தெரிந்துபால் பருகு மனமே யனம்விடுத்த படி சென றுரையாய் படிவருளத் துருகு பசும்பொன் மதிற் காசி யுடையார் வரித்தோ லுடையாாக்கே." (4) "வெதிர்ங் குதைச் சாபங்கான்ற வெந்நுனைப் பகழிமூழ்க உதிர்ந்தது சேனையீட்டங் கூற்றொடு பொருதுகொள்ளுங் கருந்தடங் கண்ணியனறிக் காயமா றாகவேகும் அருமபெற லவளுமா கென் றாடவர் தொழுதுவிட்டாா." (5) "தூயதம்பியுந் தானுமச் சுமந்திரன் றேர்மேற் போயகங்குளிர் புரவல னிருந்துழிப் புக்கான்."

(a) 1, 2, இரண்டற்கும் பொழிப்புரை எழுதுக. (b) 1, 3, இவற்றிலுள்ள அலங்காரங்கள் யாவை? (c) 2, அளபெடாமல் ஓதல், ஆதும என்றாற் போதாதா? (d) 3, 4, இவற்றுள்ள கெடுதல் தொகுத்தல் விகாரங்கள் யாவை? (e) முதலிடைகடைக்குறைகளுக்குந்தொகுத்தலுககுமுள்ள பேதமென்ன? (f) 5, இதிற் புக்கானெனறு முடிந்தது இலக்கணத்திற்குப் பொருந்துமா?

IX. (1) "யரழ முன்னர்க் கசதப" என்னுஞ் சூத்திரத்திற்கு 3, 4, 5 இலுள்ள உதாரணங்களைக் காட்டுக. (2) அதில் "வேற்றுமை மிகவும்" என்ற விதிக்கு மாறாக 3 இல் "நீர் தெரிந்து" என்று வந்ததெப்படி? (3) அல்வழியில் இவ்வீறுகள் எப்போது இயல்பாயும் எப்போது மிகலாயும் வரும்? (4) உறழ்தலும் விதியே எனறு முடியாது விதிமேலென்றதற்கு யாதும் பயனுண்டா?

X. (1) "நலமுதனலியினு நடுவு நோக்குவார் சலமுதலறுத்தருந் தருமந் தாங்கினார்" "மெய்யின்றோற்றத்தால் விறலினை யவமதிக்ககிலாய்" இககருத்துக்கள் அடங்கிய குறள்களை எழுதுக. (2) "வேட்பனசொல்லி வினையில வெஞ்ஞான்றுங் கேட்பினுஞ் சொல்லா விடல்." இதை எவ்வகைத் தொழிலினர்க்கும் பொதுவிதியாக்கி உரையெழுதுக. (3) தூது எத்தனை வகைப்படும? அவற்றுள் நாயனாரால் உரைக்கபபட்டன எவை?

SATURDAY, 22ND NOVEMBER, 2 TO 4 P.M.

TAMIL: TRANSLATION.

I. Translate into Tamil:—[See Urdu Translation paper, page cxxxvii.]

II. Translate into English the following stanzas:—

1. கானவரிரியவில்வாய்க் கடுங்கணை தொடுத்தலோடு
மாநிரை பெயர்ந்தவாய ரார்த்தன ரணிந்ததிண்டோ
டானலென்று முடங்கிற்றெனறு நிமிர்ந்தது சரமபெய்மாரி
போனின்ற வெனபமற்றப பொருவருஞ் சிலையினுர்க்கே.

2. நாடியொன்றுனக் குரைசெய்வென நளிர்மணி நகையாய்
தோடிவர்ந்ததார்ச் சம்பரன தொலைவுற்ற வேலை
ஆடல்வெனறியா னருளிய வரமவை யிரண்டும்
கோடியென்றன ளுள்ளமுங்கோடிய கொடியாள்.

3. ஈசனரு ளெனககேட்ட வில்லிறைவ னதுதெளியான்
வாசமலர்த் திருவணையார் தமைநோக்கி மற்றிதுதான்
றேசுடைய சடைப்பெருமான் றிருவருளே வினனமுமோ
ராசில்கனியவனருளாலழைத்தளிப்பாயெனமொழிந்தான்

4. வரைவளைக்கும பொற்றடந்தோண் மனனர்க் கிவரார்
நிரைவளைக்கை யார்தமைக்கு நேராக்- கரையில்
குவிமுத்தம் வெண்ணிலவு கொப்புளிக்குங் கங்கை
அவிமுத்தஞ் சென்றிறைஞ்சா தார்.

5. அனபறி வாராய்ந்த சொல்வன்மை தூதுரைப்பார்க்
கினறி யமையாத மூன்று.

III. Translate the following:—

1. சூரியவெளிச்சம் செல்லாத ஓர் இருட்டறையில் நீ வாசஞ்செய்யவேண்டியிருந்தால் உனக்கு இனனது சம்பவிக்குமென்று தெரியுமா? 2. செவ்விபெற மலர்ந்துவைத்தும் நாற்றமில்லாத பூச் சூடப்படாதவாறுபோல நூலைக் கற்று வைத்துஞ் சொல்லமாட்டாதார் நனகு மதிக்கப்படார். 3. இறந்த மூப்பினராய இருமுது குரவருங் கற்புடை மனைவியுங் குழவியும் பகியான் வருந்துமெல்லைக்கண் தீயன பலவுஞ் செய்தாயினும் புறந்தருகவென்பது அறநூற்பொதுவிதி. 4. பாகர்கள் பட்டத்து யானையை நடத்திக்கொண்டு புகழ்ச்சோழநாயனார்முன வந்தார்கள். எறிபத்தநாயனார் புகழ்ச்சோழநாயனரை அஞ்சலிசெய்து அடியேன் மகிழும்படி இந்த யானையின்மேல் ஏறிச் செல்லுமெனப் புகழ்ச் சோழநாயனர் அவரை வணங்கி யானைமேலேறிக்கொண்டு சேனைகளோடு தமது திருமாளிகை அடைந்தார்.

SATURDAY, 22ND NOVEMBER, 10 A.M. TO 1 P.M.

TELUGU: TEXT-BOOKS AND GRAMMAR.

I. (1) వసుచరిత్ర నరసభూపాలీయప్రబంధములు రచించినవారు ఒక్కరా, ఇరువురా? సహేతుకముగఁ దెల్పునది. (2) పాండురంగవిజయము, పాండురంగమాహాత్మ్యమునకు నామాంతరమా, లేక భిన్నమా?

కారణములిండు. (3) కవిత్రయమువారిలో మీరుచదివినవా రిరువురికవి త్వములకుభేదమేమి ? నన్నయభట్టకవులలో వీరెవరు ?

II. (1) ఈక్రింది పద్యములలో మొదటిదానికిఁ బ్రతిపదార్థమును, రెండవదాని కచ్చతెలుగుమాటలతో మూడవదానికిఁ దత్సమశబ్దములతో దండాన్వయములును, వ్రాయునది :—

(a) కలఁడు ల్లోకమహీమహేంద్రగహుతభుగ్జ్వాలావళీనిర్జల
స్థలధంభోనిధి లత్క్యవైమవతపత్ప్రోదదత్ఘోరది
గ్వలభీదుర్భరభేరికాభయదభాంకారైకసంప్రీణితా
చలవైరిస్తుతకీర్తిసాంద్రుఁడు వసుత్రస్తాపాలచంద్రుం డిలన్.

(b) శ్రుతివాక్యంబులు కర్మనిష్ఠ వినుతించు న్నిష్క్రియత్వంబు స
ద్గతిఁ గావించుట యూఁది చెప్ప నిటు చిత్తప్రక్రియన్ రెండుచో
దితము ల్వానిని వింటి మన్నఁ గలఁచు న్దీపించునే తత్త్వసం
గతబోధంబు సుకర్తృతం గలుగు నాకం బాప్తవీరవ్రతా.

(c) వెడఁదకన్నులవాని వెయినామములవాని వ్రేతలవలపించువెరవువానిఁ
జిప్పకూఁకటివానిఁ జెరవినమంచిపించియమవానిఁ బులుఁగుత త్తడి
వానిఁ బొడవులతుదవానిఁ బొక్కిట వెలిదమ్మిపూవువాని దిస్సమొ
లవానిఁబసిఁగానఁదిప్పవానిసెడువుఁ బ్రామట్టిక్రీనీడవిడిదిప్రోడ.

(2) పైపద్యముల స్వార్థమున 'క' ప్రత్యయ మొండుచూపి, అది యించేయేయర్థముల వచ్చునదియు సోదాహరణముగఁ దెల్పునది. (3) మొదటిపద్యమున శేషశబ్దాలంకార మున్నయది; కావ్యలింగభేదంబులలో నిందు ఏదిగలదు ? తదితరమున కుదాహరణము మీ పాఠపుస్తకముల నున్న దానివ్రాయునది. (4) రెండవపద్యమునఁజెప్పఁబడ్డ విషయము ననుసరించి దేవస్థానుం డెట్లు చెప్పియున్నాడు ? (5) మూడవపద్యమున సిద్ధ ఖండములనెత్తి వానిలో నెవి పూర్ణంబులగునో యేవికావో తెలిపి, కానికారణమునకు విరుద్ధమైనశబ్దమే దేని యుదాహరించునది (6) మొదటిపద్యమున "త్రస్తాపాలచంద్రుండ" నుచోచంద్రశబ్దప్రయోగవిషయమై మీయభిప్రాయముఁ దెల్పి యాశబ్దమున కర్థాంతరములఁ దెల్పునది.

III. (1) దుందుభి కబంధము మోతినరాముకెవడిఁ" ఇది దేనికుపమానముగఁ జెప్పఁబడియె ? దుందుభియెవడు ? రాముఁ డెపు డేల యెట్లు

వానికబంధము మీటెను? (2) "భీష్ముఁడర్థరథుఁజేసి యలంచెఁ గలంచె మద్రరా జనుచితమాడి" ఎవని? ఎప్పుడెప్పుడు? మద్రరాజెవఁడు? అతఁడాడిన యనుచితము లెవ్వి? వానిఫలమేమి? (3) "నలువదితొమ్మిది రూపంబులఁ బొందియుఁ బుష్పగంధములమోవఁగ లేకలసియు" ఎవరు? నలువదితొమ్మిది రూపము లెట్లు గలిగె? అలసి యేమిసేసె? (4) "చలము న్వెలయించుచోట ధర్మువున కొకింతయుం దొలఁగఁద్రొక్కమి యెంతయు మేలు" ఎవరిమాటలు? తొలంగనివా రెవరు? తొలఁగకుండుట యెంతమట్టుకు నిజము?

IV. (1) 'నృపులుత్తరోత్తరపదానూనస్పృహాచంచలుల్', 'ఈశులు దీనదయాళుతత్పరుల్', 'ఎయ్యూరికి నేతెరువు'—ఈ లోకోక్తు లేసందర్భమున నెవ రెవరికిఁ జెప్పినవి! (2) ఋణత్రయమును తన్మోక్షణోపాయంబులను, విష్ణుసంశ్రితము లైన తెఱంగుల నేనింటిని, ఆస్కందితాది యశ్వగతుల నన్నింటిని, వివరించునది. (3) వేదాద్రి, స్వామిమల-ఇవి యే జిల్లాలలోనివి? వీనియం దేయర్చావతారము లున్నయవి?

V. 1. ఈ క్రిందిపద్యములలో నెద్దానికైనం దుల్యంబగుదానిని మీచదివిన గ్రంథములలోనుండి వ్రాయునది. లేక, ఈ రెంటికిని మీరుచదివిన పుస్తకములలో వీనింబోలిన వానికిని గలభేదాభేదంబులఁ దెల్పునది:—

(a) "సరసము విరసముకొఱకే పరిపూర్ణసుఖంబు లధికబాధలకొఱకే"
"పెరుగుట విఱుగుటకొఱకే ధరహెచ్చుట తగ్గుకొఱకె తథ్యముసుమతీ."

(b) "పలుకు ల్వేయు నిఁకేల భూరమణ యాబంగారుకీల్బొమ్మయా
"వలికప్రంపు టనంటిక్రొమ్మొలక యావాల్గంటి యాశ్యామ యా
"యలివేణీజనచూళికాభరణ మయ్యంభోజపత్రాక్షి యా
"తలిరుంబ్రాయఁపుఁగల్కిరాచిలుక యాతన్వంగి నీకే తగున్."

2. పైవానిలో రెండవపద్యమునందలి యర్థాలంకారమును విశదీకరించునది.

VI. (1) భారతమున నింద్రుఁడు బ్రాహ్మణకుమారులకుఁ దెల్పినధర్మములకును హరివంశమున నౌర్వుండు దేవదానవులకుఁ జెప్పిన ధర్మములకును గలభేదమును విశదపర్చునది. (2) వసురాజునర్మసఖుఁడు పీఠమర్దుఁడని చెప్పఁబడుటకు కారణ మేమిగాఁ జెప్పఁబడియున్నది? ఈవిషయమై మీయభిప్రాయము సహేతుకముగ వ్రాయునది.

VII. (1) జడంబు నప్తమికిఁ బ్రభమ యాఁటకు భారతహరివంశములఁ ప్రయోగంబులు చూపునది. (2) 'అలరుఁబోడి' ఇది యేసమాసమో నిర్ధారణ చేయునది. (3) అట్టిఁడు కన్నాకు, కోల్తల, క్రియ్యాట - ఈ రూపముల కాధారసూత్రములు చెప్పునది. (4) తనయదృశ్యత నడుమనె దాల్చి, వేఱారుతునియలు —వీనియందలి వ్యాకరణవిశేషంబులఁ దెల్పునది (5) చతుర్థికిం బోఁబె వర్ణకప్రయోగంబు మీఁచదివిన గ్రంథములలో నెద్దానియందైనం జూపునది (6) అలఘురేఫము లఘువుగ, ఎట్టిచోట్ల మాఱును? ఉదాహరణము లిండు.

VIII. ఈ క్రిందివాక్యము లేయేకవుల యేయే కృతుల నున్నయవి? త్రిలింగలక్షణశేషమున నివి యేయే సందర్భములఁ జెప్పఁబడ్డవి? వీని గణవిభజనముచేసి యతిస్థానముల సూచించునది :—

(1) "తనయుఁడు తండ్రి యగ్రజుఁడు తమ్ముఁడనం జనునయ్య రాజ్యము, గొనుసెడ." (2) "ఈ పాండిత్యము నీకుఁ దక్క మఱి యెం దేఁ గంటిమే....." (3) "అలిగి పార్శ్వనిశిర మాఱునెలల కుర్విఁ, ద్రెళ్ళి పియించి దేవి యదృశ్యయయ్యె" (4) "వారాకరంబులో వటపత్రశయను లౌనబ్జనాభులు నూఱు సైదుపదులు" (5) "వెలయాండ్రు రను గొండియలఁ బరిచారికశ్రేణి నొండొంఁడఁ జఱులువట్టు" (6) ఏపునఁ గిట్టి యేనుఁగున నేనుఁగు వైచుచు వాజి వాజిచే, రూపడఁగంగ మోదుచును."

IX మీరు చదివిన గ్రంథభాగములలో నెయ్యేదానియం దేయే రసము ముఖ్యముగఁ గాన్పించుచున్నదియు, ధీరోదాత్తాది నాయకులలోఁ గాలనేమి యెవఁడైనదియు, వసురాజు గిరికాదేవిని జూచినదిమొదలు నర్మసఖుఁడు జపివేసము ధరించువఱకు నేయే యవస్థలఁ జెందినదియు, సహేతుకముగఁ దెల్పునది.

Saturday, 22nd November, 2 to 4 p.m.

TELUGU: TRANSLATION.

I. Translate into Telugu :— [See Urdu Translation paper, page cxxxvii.]

II. Translate into English :—

1. కుటిలాచారులు దైత్యు లెప్పఁడును మీకుం గీడు గావింప ను

త్కటరంధ్రంబులు వేచి యుండురు నిక్కంబెయ్యెయ్. వారి న
మ్ముట కర్తవ్యము గాదు సాత్వికమతుల్ ముగ్ధాత్తకుల్ మీర లా
కట్టియు నేర్చిరు మాయ యేమరకుఁ డేకర్జంబులందుం దగన్.

2. ఆదట పూర్వశాస్త్రములయర్థము లూఁదఁగ గ్రోలి తత్త్వసం
వేదసుధారసంబునచవిం జిరసౌఖ్యముఁ బొంద నేర కి
మ్మేదిని నెఁదునుం దిరిగి మేలని కర్మమ యూది చెప్పుచుం
గాదని శాంతి యొప్పనిదిగాఁ జెడినాఁడుదు రల్పబోధనుల్

3 బొమవిలు చూపుతూపులను బూని మృగాంకుని గెల్చి యింతిమో
మమృతము మందహాసమున నచ్చపుడాలు కపోలలీలఫా
లమునఁ గళావిలాస మఖిలంబు గొనం గని వెన్కఁజొచ్చె న
య్యమృతగభస్తిభీతతిమిరావళి వేనలిపెంపు సొంపునన్

4 నరచాపప్రవిముక్తదారుణబృహన్నారాచధారల్ భయం
కరదైతేయనికాయకాయములపైఁ గప్పెం దిశల్ నిండ బం
ధురధాత్రీధరతుంగశృంగతటసందోహంబుపైఁ గప్పఁ దు
ర్ధరధారాధరముక్తసంతతపయోధారావళిం బొల్చుచున్.

5. శాంతనవుండు సర్వకురుసంతతికిం బలవాడుఁ గాఁడె, యి
త్య తహితంబు లీపలుకు లూహవ మొప్పదు ధర్మసూతితోఁ,
బొంతెము మేలు, దేవపతిపుత్రుఁడు నంజయుతోడ నాడిన
ట్లుంతికు నెంపు, మీకుఁ దెలియందగు ఖాండవదాహ మాదిగాన్.

SATURDAY, 22ND NOVEMBER, 10 A.M TO 1 P.M.

KANARESE. TEXT-BOOKS AND GRAMMAR

I. (1) పంపరామాయణక్కే ఈ హెసరు యాకే బంతు? ఈ కవియే నిజనామవేను? అభినవపంపనేనిబ బిరుదన్ను ఈత స్వీకరిసువుదక్కే కారణవన్ను పూర్తియాగి బరెయువుదు. (2) వాల్మీకిరామాయణక్కూ పంపరామాయణక్కూ కథాసందర్భదల్లిరువ వ్యత్యాసగళన్ను మాత్ర సంక్షేపవాగి బరెయిరి.

II. (1) రుద్రభట్టను షడక్షరిదేవర కాలదల్లిద్దనేందు కేలవరూ, ఈతను ప్రతాపరుద్రన దివసదల్లిద్దనేందు కేలవరూ, అభిప్రాయపడువరు. ఇవిరడరల్లి యావ మతక్కే జగన్నాథవిజయద ఆదిభాగదల్లి

ಗ್ರಂಥದಲ್ಲಿಯೇ ಅಂತರ್ಗತವಾಗಿ ನಿದರ್ಶನವಿದೆ ? ಅದೇನು ? ಸಂಕ್ಷೇಪವಾಗಿ ಚರ್ಚಿಸುವುದು. (2) ಪ್ರತಿ ಗ್ರಂಥದಲ್ಲಿಯೂ ಕಥಾರಂಭಕ್ಕೆ ಮುಂಚೆ ಕವಿಗಳು ಏನನ್ನು ಬರೆಯುವ ಪದ್ಧತಿ ? ಆಯಾ ಕವಿಯ ಕಾಲವನ್ನು ಗೊತ್ತುಮಾಡುವುದಕ್ಕೆ ಅದರಲ್ಲಿ ಯಾವ ಭಾಗ ಉಪಯೋಗವಾಗುವುದು ? ಅದು ಹ್ಯಾಗೆ ? ಶಬರಶಂಕರವಿಲಾಸದಿಂದ ಇದಕ್ಕೆ ಒಂದು ಉದಾಹರಣೆಕೊಡಿ.

III ಈ ಕೆಳಗಿನ ಪದ್ಯಗಳ ಅರ್ಥವನ್ನು ವಿಶದವಾಗಿ ಬರೆದು ಅವುಗಳಲ್ಲಿರುವ ರಸವನ್ನು ಸೂಚಿಸುವುದು. (1) ಜಲಧಾದ್ಯಂಬರಮೆತ್ತಿದಂಘ್ರಿಯ ನಖಾಂಶುಶ್ರೇಣಿತಾರಾಗಣಂ । ದಳಿದಿಂದರ್ಪಿನಮಿನ್ನು ಮುಂದವನಿ ಚಕ್ರಂ ವಿಕ್ರಮಕೆದ್ದುದೀ । ಬಳಿಯಿಂ ದೈತ್ಯಕದಂಬಕೈಕಬಲಿಯಿಂ ಯೆತ್ತೀ ಕೃತಶ್ಮಶ್ರುಭೃ । ದ್ಬಳಿಯೆಂ ಪೆಟ್ಟಿರಸಾತಲಕ್ಕಿಳುಪಿದೈ ನೀಂ ವಾಮನಾಪಾರದಿಂ ॥ (2) ಪಸುಗೂಸಿಂಗೆನಗಿ ತ್ತುರಾಜ್ಯಪದಮಂನಿಂದಂ ತಪೋರಾಜ್ಯದೊ । ಳ್ವಸುಧಾವಲ್ಲಭನಾಮುನೀಶ್ವರನ ಪಾದೋಪಾಂತಮಂ ಪೊರ್ದಿಸಾ । ಧಿಸುವೆಂ ನಿರ್ವ್ಯತಿಷಾಖ್ಯಮಂ ವಿಷಯಸೌಖ್ಯಂ ಮುಖ್ಯಮಲ್ಲೆಂದು ಭಾ। ವಿಸಿ ಬಿಟ್ಟಂ ನರಿಯಂ ಸುಕೌಶಳನದೇಂ ವೈರಾಗ್ಯಸಂಪನ್ನನೋ॥ 3. ಸಕಳಂಕತೆ ಚಂದ್ರಮನೋಳ್ । ವಿಕಳಧ್ವನಿ ಪಕ್ಷಿಯೆಲ್ಲಿ ಭಂಗಂ ನದಿಯೋಳ್ । ಸಕುಟಿಲತೆ ಲತೆಗಳೊಳು ಭುವ । ನಕಂಟಕಂ ಬಿಸಜದೊಳಲ್ಲದಿಲ್ಲಾನಾಡೋಳ್ ॥

IV. (1) ಮೇಲೆಕಂಡ III. 1, 2, ಈ ಎರಡು ಪದ್ಯಗಳೂ ಯಾವಯಾವ ಸಂದರ್ಭದಲ್ಲಿ ಯಾರುಯಾರು ಆಡಿದ್ದು ? (2) ಕೋಶೆ ಕಂಡ III. 1, ನಲ್ಲಿ "ನಖಾಂಕಶ್ರೇಣಿತಾರಾಗಣಂದಳಿದಂದರ್ಪಿನಂ" ಎಂದು ಪಾಠಾಂತರವಿದ್ದರೆ ಅರ್ಥವ್ಯತ್ಯಾಸವೇನಾಗುವುದು? ವಿವರಿಸಿ. (3) ಶ್ರೀರಾಮಾನಟಕೌಸ್ತುಭದ್ಯುತಿ ಕಿರತ್ಪುಷ್ಪಾಂಡಲಿಕ್ಷೇಪವ । ಕ್ಷ್ರೋರಂಗಸ್ಥಿತೆಯಾದ ಪಾದನಖರೋಚಿರ್ಗಂಗೆಪೃಥ್ವೀಶಕೋ । ಟೀರವ್ಯಾಪ್ತಿಗೆ ಸಂದ ಚಕ್ರರವಿದೈತ್ಯಧ್ವಾಂತಮಂ ಗೆಲ್ದಭೂ । ಭಾರಚ್ಛೇದವಿನೋದ ಕೃಷ್ಣನೆಮಗೀಗಾನಂದ ಸಂದೋಹಮಂ ॥ ಈ ಪದ್ಯದ ಕರ್ತೃಕರ್ಮಕ್ರಿಯೆ, ಅವುಗಳ ವಿಶೇಷಣಗಳು, ಇವುಗಳನ್ನು ಪಾಂಗಿತವಾಗಿ ಅನ್ವಯ ಕ್ರಮದಲ್ಲಿ ಬರೆಯುವುದು. ಅರ್ಥ ಅಗತ್ಯವಿಲ್ಲ.

V. (1) "ಏನಸ್ಸಂತಾನವೆಂಬುಂ ಕೆಡೆ ನಿಜಗುಣಗಳೆಂಬುಂ ಪೊಗೆಂದೋರೆ"—ಏನಸ್ಸಂತಾನವೆಂದರೇನು ? "ಕೆಡೆ" ಶಬ್ದಕ್ಕೆ ಅರ್ಥವೇನು ?

ಈ ಅರ್ಥದಿಂದ ಜೈನರ ಸಿದ್ಧಾಂತ ಎಷ್ಟರ ಮಟ್ಟಿಗೆ ತಿಳಯುವುದು ?
(2) (a) "ಜಗಮೆಲ್ಲಂ ನಿಜಬೋಧದೃಷ್ಟಿಯೊಳೆ ಕಾಣಲ್ಬಂದುದೀ ಚರ್ಮಚ
ಕ್ಷುಗಳಂ ಕಾಣ್ಬಪದಾರ್ಥಮಿಲ್ಲೆನುತೆ." (b) "ಕೋಹಂಸೋಹಂಗಳೆಂ
ಬಾಗಜಬಜೆ ಪುಗದಾನಂದೆ." (c) ಪಿರಿದಾಯಾಸದೆ ಗುಣಮಂ । ದೊರೆ
ಕೊಳಿಸಿದೊಡಂ ಖಲಂಗೆ ಗುಣಮಂ ಪಶ್ಚಾ । ತ್ತರಿಸಿ ಗುಣಿಯೆಂ ವಿಭೇದಪ
ರೀಕ್ಷೆ ಮುಖಂಗೆ ಸೂಚಿಯೆಂತಿರೆ ಸಹಜಂ. ಇವುಗಳನ್ನು ಸಂಕ್ಷೇಪ
ವಾಗಿ ವಿವರಿಸಿ. (3) ಇಕ್ಷ್ವಾಕು ಎಂದು ಯಾಕೆ ಹೆಸರಾಯಿತು ? ಅನಂ
ತರಥ, ಕಂಬಳಾಶ್ವತರು, ಯಾರು ?

VI. 1. ಯಮಕ, ಶಬ್ದಶ್ಲೇಷೆ ಮೊದಲಾದ ಶಬ್ದಾಲಂಕಾರಗಳನ್ನಿಟ್ಟು
ಕಾವ್ಯವನ್ನು ಹೇಳುವುದರಲ್ಲಿ ಸಾಧಕಬಾಧಕಗಳೇನು ?

2 (a) "ಅನೇಕ ಪಾರಿಜಾತಾಶ್ಚ ಪುನಾಗಕದಂಬಾ ಕಲಿತಪದಂ,"
ಇದನ್ನು ಯಾರಯಾರಿಗೆ ಉಭಯ ಸಾಮಾನ್ಯಧರ್ಮವಾಗಿ ಶ್ಲೇಷೆ ಇಟ್ಟು
ಹೇಳಬಹುದು ? ಶ್ಲೇಷೆಯನ್ನು ವಿವರಿಸಿ. (b) (i) "ವಿಷಧರನಾಗಿಯುಂ
ಚಿರಪ್ರಭಾ ಸಂಗತನುಂ ; (ii) ಭುವನಪತಿಯೊಳಾಗಿಯುಮಜಡಾಶ್ರಯೆನು
ಮಾಗಿರ್ದನೀಶಂ." —(i) ರಲ್ಲಿ ವಿರೋಧಾರ್ಥವನ್ನೇ ಬರೆಯಿರಿ. (ii) ರಲ್ಲಿ
ವಿರೋಧ ಪರಿಹಾರಾರ್ಥವನ್ನೇ ಬರೆಯಿರಿ. (c) ಸಾಮಜಪ್ರಿಯೆ, ಪಂಚಾ
ನನ ; ಸದ್ಯೋಜಾತ, ಭವರಹಿತ ; — ಈಶ್ವರನನ್ನು ವರ್ಣಿಸುವಾಗ
ಈ ಪ್ರತಿಯೊಂದು ಜೊತೆಯನ್ನೂ ತೆಗೆದುಕೊಂಡು ವಿರೋಧಾಭಾಸ
ಅಲಂಕಾರಬರುವ ಹಾಗೆ ಜೋಡಿಸಿ ಅರ್ಥ ಹೇಳಿ.

VII. ಅಲರ್ದಸರೋಜದಿಂದ ಮೊಗೆತಪ್ಪ ಲತ್ಕಳಹಂಸೆಯಂತೆ ನಿ । ರ್ಮಲತರವೀರುವಿಂದೆ ಪೊರಪೊಣ್ಮುವತನ್ಮಣಿಮಾಲೆಯಂತೆ ನಿ । ಶ್ಚಳಪುರು
ಹೂತದನೇಳ್ತರುತಿರ್ಪ ಮೃಗಾಂಕಬಿಂಬದಂ । ತಳವಡೆ ಗೌರಿಗರ್ಭದೊಳ
ಗಿಂಬರುತೊಪ್ಪಿದಳೆಂದು ಪೇಳೆಯಾ ॥ (1) ಈ ಮೂರು ಉಪಮಾನಗ
ಳಲ್ಲಿ ಯಾವುದು ಸಾರ್ವತಿಗೆ ಸಾಭಿಪ್ರಾಯ ಉಪಮೆಯಾಗಿ ಅರ್ಥವಾ
ಡಿಕೊಳ್ಳಬಹುದು ? ಹ್ಯಾಗೆ ? (2) ಈ ಮೂರು ಉಪಮಾನಗಳನ್ನೂ ಪೊ
ದಲು ಉತ್ಪ್ರೇಕ್ಷೆಯಾಗಿಯೂ, ತರುವಾಯ ಪ್ರತೀಪಾಲಂಕಾರವಾಗಿ
ಯೂ, ಬೇರೆಬೇರೆ ವಾಕ್ಯಗಳಾಗಿ ಬರೆಯುವುದು. 3. ಪೇರುವೆಂಬ ಗಿ
ಡಕ್ಕೆ ಸಮುದ್ರ ಹ್ಯಾಗಿ ತ್ತೆಂದು ನೀವು ಓದಿರುವ ಮುಕ್ತಾಲುಪಾಲು ಗ್ರಂಥ
ಗಳಲ್ಲಿ ವರ್ಣಿಸಿದ್ದಾರೆ ?

VIII. ವಿಗದೇರನ ವಿಗಮಲ್ಲಿಯೆ ವಿಗವಗೆಯೆರವಕ್ಕೆ ಬೆಳರ್ದುನೋ
ೞ್ಪಂದಮದೇಂ ॥ ಸೊಗಸಿದುದೊ ಸವಿನೋಟದ ಬಗೆಯಂ ಖಚರಾಬಲಾ
ೞಗುಪದೇಶವೋಲ್ ॥ (1) ಈ ಕಂದದಲ್ಲಿ ಯಾವ ಶಬ್ದ ಅರ್ಥಕ್ಕೆ ಅಗತ್ಯವಿ
ಲ್ಲದೆ ಛಂದಸ್ಸು ಪೂರ್ತಿಮಾಡುವುದಕ್ಕಾಗಿಯೇ ಹಾಕಿದ ಹಾಗೆ ಕಾಣುತ್ತೆ ?
(2) ಈ ಕಂದದಲ್ಲಿ ಛಂದಸ್ಸು ಸ್ವಲ್ಪ ಕೆಟ್ಟಿದೆ. ಅದನ್ನು ಸರಿಮಾಡಿ ಬರೆ
ಯಿರಿ. ಇಲ್ಲಿಪೌ।ಸದ ಹೆಸರೇನು ? ಜಗಣವಿಂದರೇನು ? ಅದು ಕಂದದ
ಯಾವ ಭಾಗದಲ್ಲಿ ಬರಕೂಡದು ?

IX. (1) ಅಂತುಟಲ್ತು, ಆಂತುಕೊಳ್, ಭೇಳ್ದೊಡೆಕೇೞ್ದಂ,—ಇವುಗಳ
ನ್ನು ಹೊಸಗನ್ನಡ ರೂಪದಲ್ಲಿ ಹ್ಯಾಗೆ ಬರೆಯುವುದು ? (2) ಕಿಸುಸಂಜೆ,
ಔಂನೀರು, ಚೆಂಬಿಸಿಲ್, ಇಂಗಡಲ್—ಇಲ್ಲಿ ಕೆಳಗೆ ಗೀಟು ಹಾಕಿರುವ ಅ
ಕ್ಷರಗಳು ಹ್ಯಾಗೆ ಬಂದವು ? ಯಾವ ಅಕ್ಷರಗಳು ಲುಪ್ತವಾಗಿವೆ ? (3) ಕುದ್ದ
ಕನ್ನಡ ಸಮಾಸಗಳು ಯಾವವು ? ಉದಹರಿಸಿ. 'ಸುಡುಗಾಡು' ಎಂಬು
ವುದರಲ್ಲಿ ಏನು ಬಿಟ್ಟುಹೋಗಿದೆ ? ಇದು ಯಾವ ಸಮಾಸಕ್ಕೆ ಪ್ರತಿಷೇಧ.

X. (1) ವಿಧ್ಯರ್ಥದಲ್ಲಿ ಪ್ರಥಮಪುರುಷದ ವಚನದ್ವಯದಲ್ಲಿಯೂ, ಮ
ಧ್ಯಮಪುರುಷದ ಬಹುವಚನದಲ್ಲಿಯೂ, ಬರುವ ಪ್ರತ್ಯಯಗಳು ಯಾವ
ವು ? ಉದಹರಿಸಿ. (2) 'ಮಾಳ್ಪುದು' ಎಂಬ ಶಬ್ದದಿಂದ 'ಮಾಡುವುದು' ಎ
ನ್ನುವುದು ಹ್ಯಾಗೆ ಹುಟ್ಟಿತು ? ಇಲ್ಲಿನ ಳಕಾರಕ್ಕೆ ಹೆಸರೇನು ? 'ರಾಮಂ'
ಎಂಬ ಶಬ್ದದಿಂದ 'ರಾಮನು' ಎನ್ನುವುದು ಹ್ಯಾಗೆ ಹುಟ್ಟಿತು ? 3. ಈ ಕೆ
ಳಗೆ ಬರೆದಿರುವ ಪದಸಮೂಹಗಳಲ್ಲಿ ಅಸಂಗತಗಳೇನಾದರೂ ಇದ್ದರೆ ತಿದ್ದಿ
ಬರೆಯುವುದು. (a) ಗೌರೀ ಮುಂದೆ ಬಸವ ಎಂತ (b) ಇದ್ದದ್ದನ್ನು ಬಿ
ಟ್ಟು ಇಲ್ಲದ್ದನ್ನು ಬಾಯಿಗೆ ಹಾಕಿಕೊಂಡು ತೊಲಗಿದ (c) ಅವ ಹೋ
ದ್ದೂ ಕೂಡಲೇ ಇವ ಒಂದದ್ದೂ, ಎಲ್ಲಾ ಆಕಸ್ಮಿಕವಾಗಿ ನಡೆದದ್ದು ; ಒಂದ
ಕ್ಕೊಂದು ಕಾಕಾಕ್ಷಿ ನ್ಯಾಯವಾಯಿತು.

SATURDAY, 22ND NOVEMBER, 2 TO 4 P.M.

KANARESE: TRANSLATION.

I Translate into Kanarese:—[See Urdu Translation paper, page cxxxvii].

1. ಪರಚಕ್ರಕ್ಕೆಡೆವಾಡಿ ಭೂವಳಯಮುಂ ಭಂಡಾರಮುಂ ಬಾಲವ್ಯ । ಭ್ರ
ರನೀಡಾಡಿ ತಪಕ್ಕೆ ಪೋಪುದನಯಂ ಭೂಪಾಳ ನಿಂನಂ ಪುರಂ । ದರನೀ ರಾ

ಭ್ಯಭರಕ್ಕೆ ಯೋಜಿಸಿ ತಪೋರಾಜ್ಯಕ್ಕಮ್ಮೆ ದಂದನಂ। ತಿರೆ ನೀನಾಜರಿಸಲ್ಲ ದಂದು ಧರೆ ಮತ್ಸ್ಯನ್ಯಾಯಮೀನಾಗದೇ॥ 2 ಪದಿನಾಲ್ಕುಂ ಲೋಕಮುಂ ಕೀಳ್ಪೊಡೆಯೊಳೆ ತಳೆದಾ ವಿಷ್ಣುತನ್ನೀಕ ದೇಶಾ। ಗ್ರದೊಳರ್ಪಂ, ವಾರಿ ದಂ ತನ್ನೊಳೆ ಕತಿಪಯೆ ವಾರ್ಧಿಂದುವಂ ಪೀರಿತಂದಂ। ತದರಿಂದಂ ಲೋಕ ಮುಂ ತೀವುವುದು ಪವಿಭೆಯಭ್ರಾಂತಿಯಿಂದಂ ಕರಣೊಬ್ಬಿ। ಕ್ಕುದು ತನ್ನ ಗೋತ್ರಧಾತ್ರೀಧರತತಿಯೆನೆ ಬೆಂಪರ್ಣವಕ್ಕೇನೊ ಜೋದ್ಯಂ॥ 3 ಪೊಳೆ ವ ಹರಿನ್ಮಣಿ ದ್ಯುತಿಯೆನರ್ಕನ ವಾಜಿಗರುಂಕೆಗೆತ್ತು ಸಾ। ರ್ದೆಳಸುಗುಮಿಂ ದ್ರನೀಲರುಚಿಯಂ ಪೊಸ ಕಳ್ತಲೆಗೆತ್ತು ತೆಳ್ತಬಾಂ। ಪೊಳೆಯ ರಥಾಂಗಯು ಗ್ಮಮಗಿದಾಗಳೆ ಬರ್ಚುಗುಮಲ್ಲಿಯುತ್ಪಳಾ। ವಳಿ ತಿಳಜೊನ್ನ ಮಿಂದಲ ರ್ಗುಮಾ ನಗದಿಂದು ಮಣಿಪ್ರಕಾಶಮಂ॥ 4 ಎಡಬಲವಂಕದೊಳ್ನೆ ಲನನೆನೆ ಗ್ಪುಡಿಪಾಳಯೆರಿಂ ವಿಳಾಸದಿಂ। ದಡಿಯಿಡುವಲ್ಲಿನೀವ್ರುರದ ನುಣ್ದನಿಗಾಡುವ ಹಂಸೆವಿಂಡಿನಿಂ। ಬಿಡದೆ ಮುಖಾಬ್ಜಸೌರಭಮನುಣ್ಬ ಮದಾಳಿಗಳಂ ವಿನೂ ತನಂ। ಬಡದತಿಮಾನಿವೀನೆ ನಡೆತಂದು ನಿರೀಕ್ಷಿಸಿದಳ್ ಭನಾನಿಯಂ॥ 5 ಆಗಳ್, ವೀರಲಕ್ಷ್ಮಿ ವಿಜಯಲಕ್ಷ್ಮಿಯರ್ಸಕಲ ಭೂಪಾಲಕರ ಸುಕೃ ತಬೀಜರಾಶಿಗಳಂ ಜಗದ್ವಿಜಯವಲ್ಲಭನ ಪಟ್ಟಕ್ಕೆ ವೀರಸೇಸೆಯೆನಿಕ್ಕುವಂತೆ, ತಪ್ಪಲರಾಜನ ಸಿಂಹಾಸನದಿಕ್ಕೆಲದೊಳ್ ಬಿಂಕದಿಂನಿಂದು ಕಂಕಣ ಝಣ ಝಣತ್ಕಾರಂ ಸಳೆಯೆ ಕಿವಿಗೆ ಸವಿಗಳಂ ಸಾಲಿಡೆ ಸೂಳರಿದಿಕ್ಕುವ ಚಾಮ ರಗಾಹಿಣಿಯರ್ ಓಲ್ಯೆಸುತಿರ್ದರ್. 6 ಆ ರಾಜಸುತರ ನಡುವೆ ಮ। ಹಾರಾ ಜಸುತಂ ಸಿತಾಕ್ಷದಗ್ರದೊಳೆಸೆದಂ॥ ಶಾರದನೀರದದಗ್ರದೊ। ಳಾರಾಜಂ ಭೆಗಣಪರಿವೃತಂ ರಂಜಿಪಪೋಲ್॥ 7 ಇಡಿದ ತಮವೆಂಬ ಜಗುನೆಯೆ। ಮಡುವಿನ ಮಧ್ಯೆದೊಳೆ ಸುಳವ ವಿಾಂಗಳವೆಂಬಂ॥ ತಿಡಿಕಿರಿದು ತುರುಗಿ ವಿ ರುಗುತೆ। ಕಡು ಸೊಗಸಂ ಪಡೆದುವರರೆ ತಾರೆಗಳಾಗಳ್॥

SATURDAY, 22ND NOVEMBER, 10 A M TO 1 P M
MALAYALAM TEXT-BOOKS AND GRAMMAR

(N B —*Candidates should answer only the first four and any four of the remaining questions*)

I 1 ഹാകൃഷ്ണരച്ചരണയുഗളാ ന്നെവലോകെവിലൊകെ
സന്താപാനാംശരണമപരം സങ്കടെക്ഷീട്ടിശെഷ്ട
ഇത്ഥംചിന്താശബളിത മതിസ്താവടെട്ട്യുസട്ടെട്ടെ
ഭമ്യാംവാചംസഖലുജഗടെ ട്രസുരെടാസുരാംഗൈ

2 ശ്രുത്വാപിതു ശ്രുതി വിരൊധിവചസ്തദാസാ
ഗത്വാസതീര ജതഭൂമിധരംജവെന
നത്വാഹ്രിയാ ഹൃദിഭിയാ പിരുഷാശുചാച
സ്ഥിത്വാപുരഃ പുരഹരംഗിരമിത്യുവാച.

3 നീയായിനിന്നൊരു പീയൂഷംതന്നിലെ || പൊയങ്ങുമുങ്ങുമെൻ മാനസത്തെ || ആയാസമായൊരു തീയിലെപായിച്ചു || പെയായിപൊകമാറാക്കൊല്ലാതെ || എന്നെക്കാൾ വെണ്ണൊരുണ്ടായിവന്നുതാ || യെന്നെനിനക്കെതും വെണ്ടതില്ല || എന്നങ്ങുചൊല്ലികൊണ്ടെന്നുടെ ജീവിതം || എന്നെവെടിഞ്ഞങ്ങുപൊകും മുമ്പെ || കാലത്തുവന്നങ്ങുപാലിച്ചു കൊള്ളെണം || ആലംബം നീയൊഴിഞ്ഞാരുമില്ലെ || ധൃഷ്ടയായിനിന്നൊരു പാഴിതാനിന്നിവൾ || ഒട്ടെറുമെന്നൊടു ചൊന്നതെല്ലാം || എന്നുള്ളതെതുമെ ചിന്തിക്കയൊല്ലാതെ || എന്നുടെ ജീവിതമായനീതാൻ || മന്മഥമാൽകൊണ്ടു ചൊന്നുള്ളവാക്കുനീ || സന്മതിയായതെ ക്കൈക്കൊള്ളെണ്ടു || പാലിൽകലൎന്നൊരു നീരിനെവെറിട്ടു || പാൽകുടിച്ചീടിനൊരന്നംപൊലെ ||

ഇവയുടെ അത്ഥം വ്യക്തമായിപറക.

II (1) ഒന്നാം ചോദ്യത്തിലെ ശ്ലൊകങ്ങളുടെ വൃത്തങ്ങൾ ലക്ഷണസഹിതം പറക. (2) ഒന്നാംചോദ്യത്തിലെ 2-ാം ശ്ലോകത്തിൽ പറഞ്ഞ വികാരങ്ങൾ സതിക്ക ഉണ്ടാകുന്നതിന്ന ഹേതു എന്ത? (3) യമകം എന്നാൽ എന്ത? പഠിച്ച പുസ്തകങ്ങളിൽനിന്നയമകത്തിന ഒരു ഉദാഹരണം പറക. (4) താഴെ എഴുതിയിരിക്കുന്നതുകളിലെ അലങ്കാരങ്ങൾഎന്ത?

(a) താമരസ ഭവലോകലംഘനവിദഗ്ദ്ധ. (b) പനിമതിബിംബംമുഖസമമിഹതെപണിതുടരുമ്പെൾ അംശുമുകളിതെ വനജെ ദുസ്ഥിതനാം വിധിനൂനം മതിയാക്കീബതശില്പ വിധാനം. (c) കെശിക്കു ചെങ്ങാതമാക്കിവിട്ടാൻ. (d) താപത്തെതുകുന്ന ഞാനതിൽക്രൂടി നിന്നാപത്തായ്മെ വെണ്ടയെന്നപോലെ പാരുററുനിന്നൊരു വാരിജ വല്ലഭൻ വാരിധിതന്നിൽ മറഞ്ഞാനപ്പോൾ.

III താഴെ എഴുതിയവകളുകട അൎത്ഥം പറക —

1 ചൂതങ്ങളിൽ മധുപപോതങ്ങൾ വാഴുന്നു
ചൂതശരനാമലിപിജതമതുപോലെ.

2. നിമ്മുകര വൈരമ്യഗയ്യഥനിഷ്പ്രഭമാണം
നീരസ്സുശാഖികല നിവ്വരതഭാനുബിംബം.

3. സന്ത്രാസിതാശേഷ വിമതവിരതെ.

4. അംബരംതന്നെയു മംബരമാക്കി.

5 ഓങ്ങിനതെല്ലാരും കണ്ടതായെല്ലൊ പ
ണ്ടൊച്ചയുംകെട്ടി തങ്ങിനുചെന്നെ.

6. ചൈത്രനായുള്ളൊരു വാരിടംവന്നിട്ട
ദൌർഭ്ഗ്യം മാകയാലെന്നപൊലെ
നിഗ്രണനായിട്ടു നിന്നൊരുനിന്നുടെ
സൽഗുണമായുള്ള ഹംസമെല്ലാം
മാനിനീതന്നുടെ മാനസമായൊരു
മാനസംതന്നിലെ ചെന്നുപുക്ക.

7. ചാപഗുണഷ്ടാസൊ സുണീയടിഗൊപുരെപരുസൊ.

8. കാലപ്രമഥന ഫാലപിലോവനലൊലഹുതാശ വിലാസ വിലാസികരാളകളേബരമാകിയകൃത്യാകാലാനലശിഹകല്പയാമൃഹം.

9 പുരശാസന വരശോണിത പരിശോഭിത പരശോഹര ഗിരീശ കരുനിദെശമെന്തുധു നാമയാവിധെയ മായതീശ്വര.

IV. 1. മാൺ. അരട്ടക. തെററം. ശ്രു. ഊമ്പലുറഞ്ഞു. മാച്ച്. തൊഞ്ഞു. ഠരംർ. പാഴൻ. അല്ല്. ഓച്ച. കൊഴ. നീടെ. ഊമ്പി തിട്ടതി. തയ്യൽ. ഠരംടി. ചാമ്പി. തിട്ടൽ. ചൊല്ലെററ. ഠരം വാക്കുകളുടെ അത്ഥംപറക.

2. വാമം, ചരതിക്ക, ശ്രമ, ലൊകം.
ഠരം വാക്കുകളുടെ നനാത്ഥം പറക.

V. (1) ഭാരതം, കൃഷ്ണഗാഥ. ഠരം ഗ്രന്ധങ്ങൾ മലയാളഭാഷയുടെ ഏത അവസ്ഥകളെ പ്രദർശിപ്പിക്കുന്നു? (2) കൃഷ്ണഗാഥയിലും ഭാരതത്തിലും ഉപയൊഗിച്ചിരിക്കുന്ന വൃത്തങ്ങൾക്ക ഉദാഹരണങ്ങൾ എട്ടു വൃത്തലക്ഷണങ്ങളെ പ്രത്യക്ഷപ്പെടുത്തുക.

VI. (1) ശ്രീകൃഷ്ണന പ്രധാനഭാര്യമാർ ഏതു? അവരുടെ പേർ എന്ത? (2) ശ്രീകൃഷ്ണന 16008 ഭാര്യമാരുണ്ടായിരുന്നു എന്നും അദ്ദെഹം നിത്യബ്രഹ്മചാരിയായിരുന്നു എന്നും പറയുന്നത തമ്മിൽ എങ്ങിനെയൊജിക്കും? (3) നൃഗൻ, സുദക്ഷിണൻ. ഇവരുടെ കഥകളിൽ നിന്ന എന്ത അറിവ ഗ്രഹിക്കാം?

VII. (1) പാഞ്ചജന്യം, ദ്വാരക, കെശവൻ, നാരദൻ. ഒരം പേരുകൾ എങ്ങിനെ സിദ്ധിച്ചു? (2) ശ്രീകൃഷ്ണനും ബലരാമനു മാഗധനെ എന്തുകൊണ്ടു കൊന്നില്ല? (3) കംസൻകണ്ട ദുശ്ശകനങ്ങൾ ഏതെല്ലാം?

VIII. 1. കണ്ഠെകാളൻ, ഭർത്തൃപാദം, ചന്ദ്രാവതംസൻ ഇതുകളുടെ സമാസങ്ങളും ശരച്ചന്ദ്രൻ, വാഗ്ദേഭം, ചെവടി ഇതുകളുടെ സന്ധികളും പറക.

2. ആ ബാല്യാൽ എന്നതിലെ ആയുടെയും ബാലീകാ എന്നതിൽ കായുടെയും പ്രയോഗം എന്ത.

താഴെവരച്ചിരിക്കുന്ന പദങ്ങളുടെ പ്രയോഗങ്ങൾ പറക :—

(a) കമതികൾക്ക ദൃശ്യൻ. (b) മത്സുതക്ക കാന്തൻ. (c) സർവ്വദാചെയ്ക ശിവമൊദംഭവാൻ. (d) ഇജ്ജനം പുനരാളഹൊ. (e) ഞാനുമജ്ജനനുമായി ശത്രുക്കൾ തന്മെകൊല്ലാം. (f) നിജ്ജരനാഥന്താനും കാട്ടാളനായെവന്നാൻ.

IX. 1. നീതിശാസ്ത്രപ്രകാരം ശക്തികൾ എത്രവിധം.
ശത്രുനിഗ്രഹത്തിനവെണ്ടുന്ന ശക്തികൾ ഏതെല്ലാം?
അതുകളെ എങ്ങിനെ സമ്പാദിക്കാം?

2. നൃപധർമ്മം എന്ത?

3. നകുലനെ ജീവിപ്പിച്ചാൽ മതിയെന്ന ധർമ്മപുത്രര ധർമ്മരാജാവിനോട പറവാൻ സംഗതി എന്ത.

X. (1) കഥകളികൾ മൂന്നവിധം, പൌരാണികം, മിശ്രം, ഉല്പാദ്യം, ദക്ഷയാഗം അംബരിഷചരിതം, ഇതുകൾ ഏതിൽ ചെർന്നത, എന്തുകൊണ്ട. (2) നായകൻമാർ എത്രവിധം? നായകലക്ഷണം മുഴുവനം അംബരിഷനുണ്ടൊ?

XI. മലയാളഭാഷയിൽ തത്ഭവങ്ങൾ ഉണ്ടായത എങ്ങിനെ? തത്ഭവങ്ങളെ തത്സമങ്ങൾ ആക്കുന്നതിന്ന ഏതെങ്കിലും പ്രമാണം ഉണ്ടൊ? കൃഷ്ണഗാഥയിൽനിന്നൊ ഭാരതത്തിൽനിന്നൊ നാലതത്ഭവങ്ങളെ ഇടുത്ത അവയുടെ മാററങ്ങളെ കാണിച്ച തത്സമങ്ങൾ ആക്കുക.

SATURDAY, 22ND NOVEMBER, 2 TO 4 P.M.

MALAYALAM: TRANSLATION.

I. Translate into Malayalam:—[See Urdu Translation paper, page cxxxvii].

II. Translate into English :—

1. തല്ലാലെതെന്നരൊഷാലേകടതരജടാതാഡിതാൽ ഭൂമി
പൃഷ്ടാ ഉത്തിഷ്ഠന്തീകരഭുയ പടയുഗളഭരാൽ കമ്പിന്തീജഗന്തീ ഉ
ന്നദ്രാതദ്രുകൈശൈന്നടസിഘനഘടാം ഘട്ടയന്തീനടന്തീ ഖർവ്വാ
തീവ്രംവഹന്തീ സവിധമഥമുനെ രെത്തുകീത്യാബഭാഷെ.

2. അട്ടിനമുപവാസം ചെയ്തിതുന്മത്തസ്തനും
എതുയുംതാപംവന്നു ധർമ്മജനതുമൂലം
ഭരണീയന്മാർതമ്മെ ഭരിപ്പാനുപായമെ
ന്തരചന്മാരായ്വന്നു ജനിയാക്കൊത്തതും
സുഖദുഃഖങ്ങളിടകലരെ ക്രൂടക്രൂടെ
സകലജന്തുക്കൾക്കുമുണ്ടെന്നു ധരിച്ചാലും
സത്യധർമ്മാദികളെ രക്ഷിച്ചുപോന്തന്നവ
ക്കത്തലുണ്ടാകയില്ല നിശ്ചയമറിഞ്ഞാലും.

3 എന്തൊരു
ബന്ധമിവളെ യുപദ്രവിപ്പാൻനിങ്ങൾ
വൃദ്ധബാലാംഗനാഗൊ ടിജാളുങ്ങളെ
ബലരൊഷാൽ വിരൊധിക്കുന്നവരുടെ
മൂലപുരത്തിന്നായക്കുണം വെക്കാതെ
പൃഥിപതികളെന്നല്ലൊ വിധിമതം.

4. വൃഷ്ടനായുള്ളവനോടും കിതവനാം
ദുഷ്ടനോടുംക്രൂടി നന്നല്ലുലെവനം
എന്നുകൊൾപുണ്ടഞാനെങ്കിലു മിന്നിപ്പൊൾ
മന്നവവെണമെന്നാകിൽ ഞാനൊപൊരാം.

5. പ്രാസാദോത്തന്നിലെ വാതായനങ്ങളും
വാതലുമെല്ലാം തുറക്കയാലെ
മണ്ഡനംകൊണ്ടെങ്ങും മണ്ഡിതമായൊരു
കണ്ഡിനമായൊരു മന്ദിരവും
കാവ്ണ്ണൻ തന്നുടെകാന്തിയെകാണുവാൻ
കണ്മിഴിക്കുന്നതൊ എന്നുതൊന്നും.

6. കൊണ്ടൽവെണി നിനക്കുള്ളിൽ കണ്ടിതമുണ്ടൊമെന്നൊരു
മിണ്ടാതെകണ്ടിരുന്നഞാൻ-കണ്ടുകൊൾകതൽകണ്ടകന്ത

നംചെയ്യിപ്പിപ്പൻ-പ്രമഥഗണാനലനടുവതിലവ
നൊരുതുണമിവസപദിപതിതിപ്പതുകാണ്ക.
ഉൽക്കൂലാഹംകാരമൂലം ഉൾക്കാമ്പിൽ ബൊധംവെടിഞ്ഞു
ധിക്കാരംഗ്രന്നയ്യുചദ ക്ഷന്റെ ദുർമ്മദം തീർപ്പാൻഇക്കാലം
സംഗതിവന്നഹൊ-ചക്ഷുശ്രുവണൻ ചിറിവരുന്നതു
പക്ഷിപ്രവരനു ഭക്ഷണകാലം.

7. കഷ്ടംഞൊനതിപാപിയാണിതുജഗൽസംഹാരരക്ഷാകൃതി
യ്ക്കൊട്ടുക്കീശ്വരനായനിന്തിരുവടിയ്ക്കുൾ ദ്രോഹമുൾകൊൾക്ക
യാൽ
പെട്ടന്നായതിനൊത്തപൊലടിയനെശിക്ഷിച്ചതുംയുക്തമീ
മട്ടിൽപിന്നെയനുഗ്രഹച്ചതു കടുങ്കയ്യായ്ക്കുപാവാരിധെ.

SATURDAY, 22ND NOVEMBER, 4·5 TO 5·5 P.M.

VERNACULAR COMPOSITION.

Write an essay in your vernacular on *one* of the following subjects:—

The relation of national sports and games to national character

or

The actions of youth, the truest touch-stone of what he has learnt.

OPTIONAL BRANCHES.

BRANCH I.

MONDAY, 19TH JANUARY, 1891, 10 A.M. TO NOON.

EUCLID AND GEOMETRICAL CONICS.

I. Show that the complements of the parallelograms which are about the diameter of any parallelogram, are equal to one another.

Two parallelograms *ABCD*, *AEFG*, have a common angle *A*. Show that the three straight lines *DE*, *CF*, *BG* pass through a point.

II. Two chords of a circle *AB*, *CD*, intersect at *P* inside the circle. Show that the rectangle contained by *PA* and *PB* is equal to that contained by *PC* and *PD*.

AC, a chord of a circle, is bisected by another chord *BD*; show that the sum of the squares on the sides of the quadrilateral *ABCD* is equal to twice the square on *BD*.

III. If four straight lines are proportionals, the rectangle contained by the extremes is equal to that contained by the means.

Through a given point within a circle draw a chord which shall be divided at that point in a given ratio.

IV. If TP, TQ be two tangents to a parabola whose focus is S, prove that the angles TSP, TSQ are equal.

If PQ meet in TS in F, and the direction in R, prove that PQ is divided harmonically at R and F.

V. Show that the feet of the perpendiculars from the foci of an ellipse upon any tangent lie upon the auxiliary circle, and that the rectangle contained by the perpendicular is constant.

Having given two tangents, a focus, and the direction of the major axis of an ellipse, describe the ellipse.

VI. If PG be the normal at a point P of a conic, show that the ratio $SG : SP$ is constant.

If TP, TP' be two tangents to an ellipse from an external point, PG, $P'G'$ the normals at the points of contact, meeting the major axis in G and G', show that $\Delta STP : \Delta STP' :: SG : SG'$.

VII. If a straight line meet the asymptotes of a hyperbola in R and R', and the curve in P and P', show that $RP=R'P'$.

Through a point P on a hyperbola are drawn PT a tangent and PQ parallel to one asymptote. Through any other point N on the curve is drawn a straight line $QNTR$ parallel to the other asymptote, meeting PQ, PT in Q and T, and the first asymptote in R. Show that QN is a mean proportional between NR and NT.

VIII. If a right circular cone is cut by a plane in a closed curve find the nature of the curve.

If O be the vertex of a cone, A, A' the vertices of any plane section of it, show that the eccentricity of the curve is $(OA \sim OA')/AA'$ or $(OA+OA')/AA'$ according as the vertices A and A' are on the same or opposite parts of the complete cone.

MONDAY, 19TH JANUARY, 2 TO 5 P.M.

ALGEBRA, THEORY OF EQUATIONS, AND PLANE TRIGONOMETRY.

I. Prove that $(a^2+b^2-c^2-d^2)(\beta\gamma-a\delta)+(a^2+\beta^2-\gamma^2-\delta^2)(bc-ad)=a\beta+ba+c\delta+d\gamma)(a\gamma-b\delta+ca-d\beta)-(aa-b\beta+c\gamma-d\delta)(a\delta+b\gamma+c\beta+da)$.

II. State and prove the rule for finding the highest common divisor of two rational integral algebraic functions of x.

Find the H. C. D. of $nx^{n+1}-(n+1)x^n+1$ and $x^n-nx+n-1$.

III. Prove that if x be a number greater than -1 and not greater than 1, $\log(1+x)=x/1-x^2/2+x^3/3-\ldots\ldots$

Show that $1+(\frac{1}{2}+\frac{1}{3})\frac{1}{4}+(\frac{1}{4}+\frac{1}{5})(\frac{1}{4})^2+(\frac{1}{6}+\frac{1}{7})(\frac{1}{4})^3\ldots=\frac{1}{2}+\log 12$.

IV. Prove the binomial theorem for a positive integral index.

If in the expansion of $(a+bx+cx^2)^n$ the co-efficient of x^r vanishes, the co-efficient of x^{2n-p} will also vanish.

V. Solve the equations

1. $(x-a)^2+(y-b)^2=(x-a')^2+(y-b')^2=\frac{1}{2}\{(a-a')^2+(b-b')^2\}$

2

$$2x + 3y + 4z = 16$$
$$x^2 + 2y^2 + z^2 = 32$$
$$yz + zx + xy = 8.$$

VI Show how to diminish the roots of an equation by a given quantity

If a, β, γ, and δ are the roots of the equation $\frac{a}{x-a} + \frac{b}{x-b} + \frac{c}{x-c} + x + d = 0$, show that $\frac{a^2}{(a-a)(\beta-a)(\gamma-a)(\delta-a)} + \frac{b^2}{(a-b)(\beta-b)(\gamma-b)(\delta-b)} + \frac{c^2}{(a-c)(\beta-c)(\gamma-c)(\delta-c)} = 0$

VII. Explain Descartes' method of solving a biquadratic equation, and apply it to solve the equation $x^4 - 12x^3 + 20x - 9 = 0$.

VIII. Show that the equation $x^3 + 2x^2 + x - 2 = 0$ has two imaginary roots; and find the real root to six places of decimals

IX. Find the sum of a series of cosines of angles which are in Arithmetical Progression

If $\phi = \frac{\pi}{13}$ show that the expressions $\cos\phi + \cos 3\phi + \cos 9\phi$, and $\cos 5\phi + \cos 7\phi + \cos 11\phi$ are the roots of the equation $4x^3 - 2x - 3 = 0$.

X. Find the sum of the products of all pairs of expressions of the form $\sec\left(\frac{2r\pi}{n} + \theta\right)$, where r receives all integral values from 1 to n.

TUESDAY, 20TH JANUARY, 10 A.M. TO 1 P.M.

ANALYTICAL CONICS.

I. Find the angle between $ax + by + c = 0$ and $a'x + b'y + c' = 0$

What is the equation to the line drawn through the intersection of $2x + 3y - 5 = 0$ and $2y = x + 6$, perpendicular to $5x = 3y - 2$?

II. Define a *coaxial system* of circles, and shew that one of them is infinitely large and two infinitely small

If three circles have a common radical axis, the tangents drawn to two of them from any point on the third will be in a constant ratio

III. OP, OQ are two tangents from $(h\ k)$ to the parabola $y^2 = 4ax$; find the equation of the chord of contact, and show that the projection of either tangent on the directrix is $\sqrt{k^2 - 4ah}$.

If PQ subtend a right angle at the vertex, O will lie on the line $x + 4a = 0$.

IV. Obtain the equation of the normal at any point of an ellipse.

Prove that the normals at the corresponding points of an ellipse and its auxiliary circle meet on a circle whose radius is $a + b$; and deduce a geometrical construction for drawing the normal at any point of the ellipse

V. Define an hyperbola and find its equation, taking the focus as origin. Trace the curve and shew that its asymptotes are

$$\frac{x}{a} \pm \frac{y}{b} = e.$$

VI. Investigate the equation of the director circle of the hyperbola

$$\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$$

VII. What does the general equation of the second degree $ax^2 + 2hxy + by^2 + 2gx + fy + c=0$ represent when $ab-h^2$ is positive? Examine all the particular cases.

Prove that the eccentricity of the ellipse $7(x^2 + y^2) + 2xy + 10x-26y + 31 = 0$ is $\frac{1}{2}$.

VIII. Find the polar equation of the tangent at any point of the curve $r = a \cos\theta$. If SY, the perpendicular from the pole on the tangent, be produced to Q, so that $SY.\ SQ=a^2$, show that the locus of Q is $r\frac{1}{2} \cos\frac{1}{2}\theta = a\frac{1}{2}$, and trace this curve.

IX. What do the following equations represent?

1. $2x^2 + y^2 = 3y$.
2. $x^2 + y^2 = a^2$ (the axes being oblique).
3. $(2x + 3y)^2 = 5(4x - 5y + 6)$.
4. $(x-a)(y+b) = 2(x+a)(y-b)$.

Trace the last two curves.

TUESDAY, 20TH JANUARY, 2 TO 5 P.M.

DIFFERENTIAL CALCULUS.

I. Define a differential coefficient; and obtain directly from the definition the differential coefficients of $\tan x$, of $\frac{f(x)}{\phi(x)}$, and of a function of a function

II. Differentiate $\frac{1}{na^2} \log\left(\frac{x^n}{a+bx^n}\right) + \frac{1}{(na+bx^n)}$, and find the value of $\frac{d^n(\sin x)}{dx^n}$.

If $y = e^{\frac{x}{2}} \sin\frac{\sqrt{3}}{2}x$, prove that $\frac{d^n y}{dx^n} + \frac{d^{n-1}y}{dx^{n-1}} + \frac{d^{n-2}y}{dx^{n-2}} = 0$.

III. Establish independently Maclaurin's theorem, and apply it to obtain a series for calculating the value of e.

Expand $\frac{e^x}{\cos x}$ in ascending powers of x as far as x^4

IV. If $\phi(a)=0$, $\psi(a) = \infty$, find the limiting value of $\phi(x)\psi(x)$ when $x = a$

Evaluate 1. $\frac{a^{\sin x}-a}{\log(\sin x)}$ when $x = \frac{\pi}{2}$

2. $\dfrac{x^3 - 4x^2 + 5x - 2}{x^4 - 6x^3 + 12x^2 - 10x + 3}$ when $x = 1$.

V. Assuming the rule for discovering *maxima* and *minima* values of y expressed as an explicit function of x, show how to proceed to determine them from the implicit function $(\phi x, y) = 0$, which cannot be solved explicitly.

Find the value of x that makes $x^m (a - x)^n$ a *maximum*.

VI. Show how to cut maximum and minimum ellipses from a right cone standing on a given circular base.

VII. Find the equation to the tangent and normal to the curve $x = \phi(t)$, $y = \psi(t)$, the axes being rectangular

Find the equations to the tangent and normal, at the point (a,b), to the curve $\tan^{-1}\dfrac{y}{x} = \log\sqrt{x^2+y^2}$.

VIII Show how to find whether a curve has asymptotes, illustrating by one of the conic sections.

Find the equations to the real asymptotes to the curve $ay^3 + by^2x - a^2y^2 - b^2x^2 = 0$.

IX. Show that the difference between the lengths of the radii of curvature at any two points of a curve is equal to the length of the arc of the evolute between the corresponding centres of curvature.

Find the length of the whole evolute of the ellipse $\dfrac{x^2}{a^2} + \dfrac{y^2}{b^2} = 1$.

X. Determine the equation to the cycloid and trace the curve.

Trace the curves $x^4 + x^2y^2 + y^4 = x^2(ax^2 - by^2)$

$$r = a\cos\theta + b\cos 2\theta.$$

WEDNESDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

DYNAMICS.

Full marks will be awarded for answering about three-fourths of this paper.

I. Explain the terms *acceleration, momentum, force, work, standard substance*, and the various units employed to measure *force* and *work*.

In a derived system of units the unit of work is the work done in the unit of time by an agent which works at the rate of 300 foot-pounds per minute, the unit of momentum is the momentum of a half ounce bullet moving with a velocity of 320 feet per second, and a cubic foot of the standard substance weighs $\frac{5}{16}$ oz. Find the units of mass, length, and time.

II. Explain what is meant by *the conservation of energy*. Prove that when a constant force acts on a body the change of kinetic energy produced is equal to the work done by the force.

A uniform heavy chain of mass $3m$, having a mass m attached to one end, is passed over a light smooth pulley, and brought to its position of equilibrium. The mass m being detached, the chain begins to move, and when the upper end reaches the pulley the

lower end comes in contact with a table Apply the principle of work to find the velocity of the chain at this instant. Also find the pressure on the table when two-thirds of the chain is on it.

III. What is *simple harmonic motion?* Prove that when a particle moves harmonically in a straight line the acceleration is proportional to the displacement. Hence, or otherwise, find the time of a small oscillation of a simple circular pendulum.

IV. Prove that the path of a projectile is a parabola, and show that for a given velocity of projection there are two angles of projection which give the same range on an inclined plane through the point of projection.

From a point P two particles are projected simultaneously and with the same velocity so as to pass through a point Q If t_1 and t_2 be the times taken by the particles to reach Q, prove that after a time $\frac{1}{2}(t_1 + t_2)$ their directions of motion are parallel, and that each direction then makes with PQ an angle $\frac{\pi}{4} + \frac{i}{2}$, where i is the inclination of PQ to the horizontal.

V State the laws of impact, and explain how they may be experimentally verified.

Three balls A, B, C, of the same material, are lying with their centres in a straight line B is made to impinge directly on A, and rebounding strikes C. If A and C, after having been struck by B, move off with equal and opposite velocities, prove that e, the coefficient of restitution, is given by the equation $em_1 = 2m_2 + m_3$, where m_1, m_2, m_3 are the masses of A, B, C, respectively

VI. State and prove the parallelogram of forces. State also the triangle of forces

Four equal uniform heavy rods are connected by hinges so as to form a rhombus $ABCD$, the hinges B and D being connected by a uniform rod of the same length and weight as the other rods. The system is suspended by a string attached to the hinge A, and rests with the rod BD horizontal. Find the stresses in the rods and the reactions at the joints on the rods AB, BC.

VII. Explain the terms *couple, axis of a couple, moment of a couple.* Prove that two couples in the same plane are in equilibrium if their moments are equal and they tend to turn in opposite directions.

A right circular cylinder, of length $2l$ and radius r, rests with its axis in a vertical plane, its lower end on a rough horizontal plane, and its upper end against a rough vertical wall. Prove that if μ_1 and μ_2 be the coefficients of friction for the plane and the wall respectively, the angle which the axis of the cylinder makes with the horizontal in the limiting position of equilibrium is given by the equation

$$\cot\theta = \frac{2\mu_1}{1 + \mu_1\mu_2} + \frac{r}{l}\frac{1 + \mu_1\mu_2}{1 - \mu_1\mu_2}.$$

VIII Show how to find the centre of inertia (1) of an arc of a circle, (2) of a sector of a circle.

AB is a diameter of circle of radius r, CD a chord perpendicular to AB and subtending an angle 2α at the centre of the circle.

Prove that the distance from the centre of the C. I. of the figure bounded by the lines AC, AD and the arc CBD, is $\frac{r}{6}\cdot\frac{2\sin a+\sin 2a}{\sin a+a}$.

IX. Explain the terms *moment of inertia*, *radius of gyration*. Find the radius of gyration of a right-angled triangle about an axis passing through an angular point perpendicular to the plane of the triangle; and prove that the radius of gyration of a triangle about a side is $\frac{p}{\sqrt{6}}$, where p is the perpendicular on the side from the opposite angular point.

X. Describe the common balance, and explain, giving proofs where necessary, how the requisites of a good balance may be satisfied.

One arm of a balance is slightly longer than the other. Prove that the true weight of a substance which appears to weigh w_1 and w_2 when placed in the two scale-pans successively is $\frac{1}{2}(w_1+w_2)$ very nearly.

THURSDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

HYDROSTATICS, PNEUMATICS, AND OPTICS.

Full marks will be awarded for answering about five-sixths of this paper.

I. What is the fundamental property of a fluid? Prove that the pressure at any point of a fluid is the same in all directions.

II. Find the resultant vertical pressure on any surface immersed in fluid. A hollow cone, just filled with water and closed, is held with its axis horizontal. Find the resultant vertical pressure on the lower half of its curved surface.

III. Find the centre of pressure of (1) a rectangle immersed in a liquid with one side in the surface; (2) a triangle immersed in a liquid with one side in the surface.

IV. State the conditions of equilibrium of a solid body floating in a fluid. A triangular lamina, in the form of an isosceles triangle having an obtuse angle of 120°, rests in water with the oblique angle in the surface, one of the equal sides vertical, and the angle which is outside supported by a string. Prove that the tension of the string is one-seventh the weight of the lamina, and that the density of the lamina relative to water is $\frac{1}{7}$.

V. Explain the construction and action of the mercurial barometer.

The surface of the mercury in a barometer is raised to a fixed level before readings are taken. In the tube of the barometer above the mercury is a little air; and it is observed that the barometer reads h_1 and h_2 when a correct barometer reads h_1+a_1 and h_2+a_2 respectively. Find the true pressure of the atmosphere when the faulty barometer reads h.

VI. State the laws of Boyle and Charles. Also state the relation between the volume, pressure, and temperature of a given quantity of gas. Explain the action of the siphon.

VII. Describe the common air-pump, and explain its action.

An air-pump is used to exhaust a certain receiver, and after

ten strokes of the pump the mercury in the gauge stands at 20 inches. If the atmospheric pressure is 30 inches, find the height at which the mercury in the gauge will stand after twenty more strokes.

VIII. What is meant by the critical angle between two media? Give an illustration of total internal reflection.

Prove that light which has been refracted into a sphere from a vacuum cannot undergo total internal reflexion.

IX. A pencil of rays is refracted through a prism in a principal plane. Find the deviation of its axis, and also when the deviation is a minimum. If the minimum deviation for rays incident on a prism be α, show that the angle of the prism cannot exceed $\pi - \alpha$, and that the refractive index cannot be less than $\sec \frac{\alpha}{2}$.

X. Show how to find the position of the geometrical focus of a pencil of rays after direct refraction through a thin lens.

A pencil of parallel rays is refracted through a sphere of radius r and refractive index μ. Prove that the geometrical focus after emergence is at the same point as if the pencil had been only refracted at the first surface of a concentric sphere of the same material and radius $\frac{1}{2}\mu r$.

XI. Find the visual angle under which an object is seen through a lens by an eye situated on the axis of the lens.

A person who can see distinctly at a distance of three feet finds that with a pair of plane convex spectacles he can see distinctly at a distance of one foot. If the refractive index of glass be $\frac{3}{2}$, find the radius of each of the convex surfaces.

XII. Describe the common astronomical telescope. Determine the field of view as defined by the axes of the extreme pencils transmitted by the eye-glass.

An astronomical telescope is fitted with a Ramsden's eyepiece and adjusted for parallel vision. If the focal length of the object-glass is F, and the distance of the field-lens of the eyepiece from the object-glass a, show that the magnifying power is $\frac{F}{3(a - F)}$.

THURSDAY, 22ND JANUARY, 2 TO 5 P.M.

SPHERICAL TRIGONOMETRY AND ASTRONOMY.

I. Prove that in any spherical triangle ABC

1. $\dfrac{\sin A}{\sin a} = \dfrac{\sin B}{\sin b} = \dfrac{\sin C}{\sin c}$;

2. $\cos a = \cos b \cos c + \sin b \sin c \cos A$.

ABC is a spherical triangle, D and E the middle points of AB and AC respectively. The great circle through D and E meets BC produced in F. Prove that (a) the arcs BF, CF are supplementary,

(b) $4 \cos \frac{b}{2} \cos \frac{c}{2} \cos DE = 1 + \cos a + \cos b + \cos c$.

II. Obtain the formulæ

1 $\tan\frac{A+B}{2} = \frac{\cos\frac{1}{2}(a-b)}{\cos\frac{1}{2}(a+b)}\cot\frac{C}{2}$;

2. $\cos\frac{A+B}{2}\cos\frac{c}{2} = \cos\frac{a+b}{2}\sin\frac{C}{2}$.

III With the usual notation prove that the area of a spherical triangle is Er^2, and that $\sin\frac{1}{4}E = \sin C \sin\frac{a}{2}\sin\frac{b}{2}\sec\frac{c}{2}$

In a right angled spherical triangle the sides containing the right angle are each 60°. Show that the spherical excess=2 $\cot^{-1}3$.

IV. Explain how the earth's orbital motion accounts for the variations of the sun's meridian altitude throughout the year. Find the sun's greatest and least meridian altitudes at a place in latitude 60°

V. Distinguish between sidereal and mean solar time.

At a place in longitude 52° 30′ W. an observation was made at $10^h\ 15^m$ mean time. If the mean sun's R.A. at previous Greenwich mean noon was $9^h\ 35^m$, and the change in R.A. 9 85 seconds per mean hour, find the sidereal time of the observation.

VI. State the effects of refraction, parallax, and aberration on the apparent position of a heavenly body. What is the annual parallax of a star? Explain how the effect of aberration on a star is a maximum when the effect of parallax is a minimum

VII. Explain generally how the parallax, the distance, and the diameter of the moon are determined. State the mean distance and the diameter

VIII. Describe the apparent motion of an inferior planet. If the greatest elongation of Venus be 45° and her period be $\frac{8}{13}$ of a year, show that she will be at her greatest elongation at intervals of $1\frac{1}{2}$ and $\frac{2}{3}$ of a year alternately.

IX. The altitude of a star when on the prime vertical is observed to be 30° and its meridian altitude is 45°. Find the latitude of the place of observation

The R A. of the moon's centre at her transit over a certain meridian is observed to be $8^h\ 45^m$, and the R.A. at the preceding transit over the meridian of Greenwich is found from the Nautical Almanac to have been $8^h\ 12^m\ 30^s$. If the moon's daily motion in R A. be 13° find the longitude of the place of observation.

X. Explain generally the conditions under which a solar eclipse is possible. What are the solar and lunar ecliptic limits?

BRANCH II.

MONDAY, 19TH JANUARY, 10 A.M. TO 1 P.M.

PHYSICS.

Candidates must not attempt more than three questions in each of the sections A and C, and two questions in B, D, and E.

A

I. State the first and second laws of motion, giving some

reasons for accepting the truth of the first. Apply them to explain the behaviour of a cricket ball struck with a bat.

II. Two bodies whose weights are the same have equal masses. How has this been proved? Is it true for all places on the earth's surface?

III. 1. A barometer is filled with water instead of mercury; how long must the tube be to show the atmospheric pressure corresponding to 30·6 in. and 27·5 in. of barometric pressure?

2. A barometer is placed inside a cylindrical vessel closed at the top and open below. This vessel is then let down into water, in such a way that no air escapes. How high will the barometer stand when the vessel has been sunk to a depth of 50 feet?

IV. What is meant by conservation of energy? Explain how the law of conservation of energy holds good in the following cases:—(1) a rapidly moving train brought to rest by means of breaks; (2) a cannon ball describing a parabola; (3) the coal in the furnace of a steam engine.

B.

V. Compare and contrast the propagation of sound and of light. Describe one method of measuring the rate of propagation of sound, and show why the method is inapplicable to light.

VI. Explain the production of a musical note by means of an organ pipe, and point out the difference between the modes of vibration in an open and a closed pipe.

VII. What is the length of the sound wave produced by a tuning fork giving 256 vibrations per second? How will the length be affected by change of temperature?

C.

VIII. Distinguish between *heat* and *temperature*, and describe a method by which each can be measured.

IX. Distinguish between the apparent and the real expansion of a liquid. The density of mercury at 0°C is 13·596 and the mean co-efficient of absolute expansion between 0°C and 50°C is 0·000154. Find the density at 50°C.

X. 1. What are the experimental grounds for believing that there is no essential difference between radiant heat and light.

2. A piece of polished silver, a piece of glass, a block of carbon, and a piece of rock salt are suspended in an enclosure at a high temperature. Trace the manner in which each finally reaches the same temperature. If these substances, after they have reached a steady state of temperature, are brought out of the enclosure and hung up at some distance from each other, how will each behave?

XI. Describe one method for determining the dynamical equivalent of heat. The height of the Falls of Niagara is 165 feet; if the speed of the water just above the falls is 20 miles an hour and below them 5 miles an hour, how much warmer will the water be at the foot than at the top?

D.

XII. How can it be proved that light travels in straight lines?

Show by a sketch the illumination produced on a distant wall by four equal lamps placed at the corners of a small square parallel to the wall, when an opaque screen with a round hole in it is held between the wall and the lamps.

XIII. A source of light is gradually moved up from an infinite distance to a concave mirror. Trace the changes in the position of the conjugate focus.

XIV. Show by a figure the path travelled by the rays of light forming (1) a real, (2) a virtual image with a convex lens. From your figure show that an eye placed at some distance from a lens forming a real image can see only a small part of the image at a time.

XV. Describe a two-prism spectroscope, and trace the path of a ray of light through it.

E.

XVI. Describe the distribution of electricity in the following cases:—(1) a conductor rounded at one end and pointed at the other charged with electricity; (2) a charged Leyden jar; (3) an insulated cylindrical metal vessel open at the top, into which a charged sphere is lowered by means of a silk thread. Give the distribution both before and after the sphere has touched the cylinder.

XVII Give a brief sketch of the leading features of terrestrial magnetism.

XVIII. State Ohm's law and explain the meaning of the terms used. Comparethe currents flowing in the following cases:—(1) a battery of 20 cells, each having a resistance of 10 units, through an external resistance of 1000 units; (2) a similar battery of 5 cells, with plates 3 times as large as in the former case, through an external resistance of 100 units.

XIX Describe any form of instrument by which a current of electricity can be obtained by the expenditure of mechanical energy.

MONDAY, 19TH JANUARY, 2 TO 5 P.M.

CHEMISTRY.

Not more than ten questions are to be attempted.

I. Calculate the number of foot-pounds of energy that make their appearance in the form of heat during the production of nine pounds of solid water at O°C. from the constituent elements. If the above quantity of energy were in the mechanical form, how many tons could it lift to the height of one thousand feet?

(When one pound of hydrogen is burnt in the air 29567 units of heat are produced, if the product of combustion remains in the gaseous state. The latent heats of water and steam are 79 and 537, respectively. The mechanical equivalent of heat is to be taken as 1390. Centigrade degrees are to be used. A ton = 2240 pounds.)

II. The specific heat of one of the common elements is ·031 and its equivalent is 51·6: determine its atomic weight. What is the physical state of the element at ordinary temperatures, and is it a metal or a non-metal? Give the reasons for your answer

III. One gramme of pure marble is completely decomposed by heat Calculate the volume of the gaseous product obtained at the temperature of 15°C. and under a pressure of 780 mm.

What pressure would the above mass of gas exert at the temperature mentioned if occupying the volume of half a litre?

IV What do you understand by a crystal; what circumstances favor and what hinder the formation of crystals? How may crystals of the following substances be obtained:—potassium, lead, iodine, sulphur, silicon, alum, white arsenic, silver-amalgam?

V. Define as closely as you can the terms "acid" and "base." To which class of bodies does aluminium hydroxide belong? What are "acid salts" and "basic salts"? Give examples of both classes.

VI. A compound is found, on analysis, to contain—Carbon 40·0 per cent; Hydrogen 6 6 per cent; Oxygen 53·4 per cent.

With silver it yields a compound containing—Carbon 14·37 per cent; Hydrogen 1·79 per cent; Silver 64 68 per cent; Oxygen 19·16 per cent.

From these data calculate the empirical and molecular formulæ of each compound, and state to what class of bodies each belongs.

VII. A substance added to a solution of potassium permanganate decolourises it. What conclusions would you draw as to the nature of the substance? If a natural water acted in this manner, would it be suitable for drinking purposes? Give the reasons for your answer.

VIII. A solution when treated with HCl effervesces and gives a yellow precipitate, which, on boiling with nitric acid, dissolves. The nitric acid solution on the addition of a solution of lead nitrate gives a white precipitate. Mention the substance contained in the original solution and give equations for the reactions mentioned.

IX Mention four metals that form acid oxides or acid hydroxides, and describe the preparation and uses of the potassium salts of any two of them.

X. Mention the principal compounds of zinc which occur in nature, and state which of them are of value as ores of the metal. How is zinc obtained from its ores, what are the chief uses to which it is applied, what impurities does it usually contain, and how may these impurities be removed?

XI. What impurities would you expect to find in hydrogen prepared from commercial zinc and sulphuric acid, and whence are they derived? Is it possible to remove them, and if so, how?

XII. Compare the action of solutions of potassium hydroxide and of ammonia upon the following substances in aqueous solution:—ferric sulphate, zinc sulphate, aluminium sulphate, silver nitrate, mercurous nitrate, mercuric chloride, and cupric sulphate.

XIII. Compare the behaviour of (1) the chlorides, (2) the bromides, (3) the nitrates, (4) the sulphates, and (5) the acid phosphates, of potassium and ammonium, when subjected to the action of (*a*) heat, (*b*) sulphuric acid, (*c*) tartaric acid, (*d*) a solution of caustic soda.

JANUARY 1891.

CHEMISTRY.

Practical Examination.

Two dry powders, marked A and B, are given for analysis Their composition is to be ascertained, as far as possible, by dry tests before proceeding to the preparation of a solution. The analyses are to be tabulated in a concise and intelligible manner, no credit being given for any results unless it is clearly and distinctly shown how they have been arrived at.

After each analysis has been completed, equations should be written for every change which has been observed, and which admits of being represented in this manner.

BRANCH II.A

TUESDAY, 20TH JANUARY, 2 TO 5 P.M.

MIXED MATHEMATICS.

I 1. Assuming the truth of the parallelogram of forces for the direction of the resultant of commensurable forces, show that it holds also for incommensurable forces.

2 Two forces acting at one point are represented by BA and CD, the sides of a quadrilateral $ABCD$; show that they will be kept in equilibrium by a force represented by $2HF$, if H and F are the middle points of AD and BC.

II 1. Show that the moment of the resultant of two unlike parallel forces about a point in their plane is equal to the algebraic sum of the moments of their components about that point; and explain the case when the two parallel forces are equal

2. Find the centre of parallel forces acting at the corners of a triangle and proportional to the opposite sides.

III. 1 Find the centre of gravity of a pyramid having any plane polygon for its base

2. ABC is a uniform equilateral triangular plate, each side of which is 4 feet; equilateral triangles each 1 foot in side are cut off from the corners A and C, and one measuring 2 feet in each side is cut off from the corner B. Find the distance of the centre of gravity of the remaining portion from that of the original plate.

IV. 1 Discuss the requisites of a good balance and how they are obtained.

2. A balance is at rest with unequal weights P, Q, in the pans. Show that the vertical displacement due to the addition of a small weight will be the same whether it be added to P or to Q

V. 1. Find the relation between the power and the weight in the first system of pullies, taking into account the weights of the pullies

2 Show that in this system, if the pullies are all of equal weight, the equilibrium is not disturbed if we increase P, W, and the weight of each pully by the same amount.

VI 1. Show that the velocity acquired in sliding from rest down

a smooth inclined plane is the same as would be acquired in falling freely through the vertical height of the plane.

2. Two equal smooth masses A, B, are connected by a thread, A being at the bottom of a smooth plane, inclined at an angle of 30° to the horizon, while B hangs freely at the other end of the thread which passes over a pully at the top of the plane. Compare the time in which A will be drawn to the top of the plane with that in which it will slide down the plane again if separated from B when at the top.

VII. A stone is projected vertically down with a velocity of 80 feet per second; and 4 seconds after another is projected from the same point vertically after the first but with 4 times its velocity. When and where will the second stone overtake the first?

VIII. The acceleration of gravity is 32 when the foot and second are units; but if its measure is 1000 when 10 seconds is the unit of time, what is the unit of length in this case?

IX A train of 80 tons is moved on a horizontal railway by a constant force equal to the weight of ¼ ton acting for 2½ minutes. The force then ceases. What will be the velocity of the train at that instant, in miles per hour; and how far will it move before coming to rest, if the frictional resistance is equal to the weight of 20 lb. per ton?

WEDNESDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

PHYSICS.

I. What are the dimensions of force, momentum, energy, pressure, and power, in terms of the fundamental units of mass, length, and time? If these units be changed from the pound, foot, and second, to the ounce, inch, and quarter-second, how will the measure of each of the above named physical quantities be changed?

II State the laws that govern the collision of two elastic bodies; and find the result of a ball impinging directly on another equal ball at rest, according as the balls are elastic or non-elastic.

III. 1. Explain clearly the effect of alteration of temperature and pressure on the velocity of sound in a gas.

2. Find the velocity of sound in hydrogen at normal temperature and pressure, given that 1 litre of hydrogen is ·0896 gram.; and that specific heat at constant pressure : specific heat at constant volume = 1 : 1·41.

IV. 1. Two organ-pipes of the same material, one closed and the other open, give the same fundamental note, but differ in quality. Explain this clearly

2 What would be the approximate positions in the ordinary diatonic scale of the notes given by a 4 foot closed organ pipe, when sounded (*a*) with air and (*b*) with hydrogen?

V. 1. Describe and explain Kundt's experiments for determining sound velocity in gases and solids.

2. With a glass tube 40 inches long and filled with hydrogen the length of a dust segment was 9·4 inches; while it was only 2·02 inches when filled with carbonic acid gas, and 2·5 inches when filled with air. What inferences can you draw from these experiments?

VI. 1. Obtain directly from the geometrical figure and not by deduction from the formula for a concave mirror, the relation between the conjugate foci of a convex spherical mirror?

2. How would you experimentally find the focal length of such a mirror?

VII. 1. Find the focal length of a combination of two thin lenses of focal lengths f_1 and f_2 placed at a distance d apart.

2. Give the general principle of the compound microscope.

VIII. 1. What are the great types of spectra; and what is the general connection between the character of a spectrum and the physical condition of the luminous body?

2. Briefly explain how the spectroscope reveals the nature of the solar protuberances (or prominences).

IX. Explain the phenomenon known as Newton's rings; and find the relation between the thickness of the layer of air, the radius of curvature of the lens used, and the diameter of the corresponding ring.

X. 1. On what ground is based the theory that the vibrations of the ether that constitute light cannot be, like those of air in sound, in the same direction as the advancing wave motion?

2. What are the optional peculiarities of the crystal tourmaline, and what use is made of these?

Wednesday, 21st January, 2 to 5 p.m.

PHYSICS.

I. Explain what is meant by absolute temperature. If one litre of hydrogen weighs 0·0896 gram. at N.P.T.; find the weight of a cubic metre of the same gas at 100°C., the pressure remaining the same.

II. Describe the behaviour of plates of rock salt and alum with regard to the transmission of radiant heat (1) from sources at different temperatures, (2) when the thickness of the plates is varied.

III. What is meant by saying that gases have two specific heats? What is the ratio between them? How has this ratio been used for calculating the mechanical equivalent of heat?

IV. What are the three elements of terrestrial magnetism? How may the horizontal force at two or more places be compared by the method of vibrations?

V. Show that the total action of a bar magnet on a suspended needle, small as compared with its distance from the centre of the bar magnet, varies inversely as the cube of that distance, very approximately. Take the case of the prolongation of the axis of the bar magnet passing through the centre of suspension of the needle, the bar magnet being placed east and west.

VI. Two spheres q and q', of radii r and r', respectively, are connected by a fine wire and charged with a quantity of electricity. How will the charge be divided between them, neglecting the capacity of the wire?

VII. Describe an experiment to show that the opposite electricities of a charged Leyden jar reside principally on the inner and outer surfaces of the glass.

VIII. Describe some form of voltameter. What is meant by the polarization of the electrodes? What happens when the electrodes are of lead?

IX. Describe and explain the thermopile, and some of the uses to which it has been put.

X. A battery of 10 volts E.M.F. and 20 ohms resistance is connected to a galvanometer of 50 ohms; what will be the current in the circuit? If now the galvanometer be shunted by a resistance of 60 ohms, how will the current through the galvanometer be modified; and what must be done to make the galvanometer current one half what it was at first?

XI. Give Lenz's law regarding the induction of currents by currents, and describe some experiments which illustrate it.

XII. A conducting body is in rapid rotation in a magnetic field. Describe and explain what happens

XIII. Describe some form of dynamo electric machine.

BRANCH II.B

TUESDAY, 20TH JANUARY, 2 TO 5 P.M.

CHEMISTRY.

Not more than eight questions are to be attempted.

1. Name half-a-dozen elements which have had their atomic weights determined (1) by the aid of Dulong and the Petit's law alone, (2) by the aid of Avogadro's hypothesis alone, (3) by both means. State why both the above methods cannot be applied in the determination of the atomic weights of all the elements.

II. Arrange the non-metallic elements in groups of allied elements, and point out the relationship in the members of each group. Mention any metals which are allied to these groups, and state the facts which prove the connection.

III. Give a description of the changes occurring in a sulphuric acid chamber, by which sulphur dioxide is converted into sulphuric acid.

IV. Write an account of the oxygen acids of sulphur, and describe a method by which each may be prepared. Mention the different formulæ which have been proposed for the sulphites and thiosulphates, and the evidence there is in support of them.

V. Describe and explain the action of an apparatus depending upon diffusion by which the presence of fire-damp in a coal mine may be detected.

271 volumes of a certain elementary gas at the ordinary temperature diffused in the same time as 227 volumes of chlorine; calculate the density and molecular weight of the gaseous element. The molecular weight of this element will be found to be a multiple of the atomic weights of several of the elements. Name these elements and give your reasons for believing that one of them is the element in question. Give the atomic constitution of the molecule of the element.

VI. Describe how an examination of the nature of the light

emitted or transmitted by substances is employed in investigating their chemical composition. Mention any important discoveries which have been made by this method of investigation Mention, also, some important instances of chemical changes produced by the action of light, and the application which has been found for them. Show that the old view that chemical activity was confined to one portion of the solar spectrum is no longer tenable.

VII Describe the changes (1) in the form and arrangement of the matter, (2) in the form and distribution of the energy which occur in the following cases :—(*a*) the addition of potassium to water, (*b*) the addition of caustic potash to water, (*c*) the addition of nitre to water, (*d*) the passage of ammonia gas into water, (*e*) the exposure of a strong solution of ammonia to the air, (*f*) the mixing together of ammonia gas acid hydrochloric and gas. How would you demonstrate that a thermal change takes place in all the above cases ?

VIII. Describe and, where possible, write equations for the changes which occur—

1 when chlorine water is added to a solution of (*a*) potassium permanganate, (*b*) indigo, (*c*) potassium iodide, (*d*) potassium iodate, (*e*) sulphuretted hydrogen

2. when sulphurous acid is added to a solution of (*a*) potassium permanganate, (*b*) indigo, (*c*) iodine

IX. Make a drawing of the flame of a Bunsen burner. Indicate, by letters, the regions of the flame which are employed for producing the various effects, and describe the chemical changes occurring and the conditions prevailing in each region

X Give a general account of the properties of the silicates, and show the important part that they play in art and nature. Describe the usual methods employed for the analysis of the silicates. A general formula for the felspar group of minerals is $RO\ R_2O_3\ (SiO_2)_6$. Name the oxides that may be present in the place of RO and R_2O_3, and explain clearly the nature of the formulæ so obtained. In what rocks is this mineral group found ?

XI. State what occurs when a compound of arsenic and a compound of antimony areintroduced into a hydrogen generating apparatus and the gas passed (1) through a glass tube one part of which is heated, (2) into a solution of silver nitrate. Mention any other methods by which arsenic and antimony compounds may be distinguished from each other.

XII. What are the principal compounds of manganese found native ? How may the commercial value of a manganese ore be determined ? Mention the purposes for which ores of manganese are chiefly used.

XIII Mention the three forms in which platinum is known and the manner in which they are obtained. How do they differ from each other ? What precautions have to be observed in the use of platinum articles in analysis, and why ? Mention some important purposes for which platinum in a finely divided state is employed

WEDNESDAY, 21ST JANUARY, 2 TO 5 P.M.

CHEMISTRY.

Not more than nine questions are to be attempted.

I. What meaning was originally assigned to the terms "inorganic" and "organic" as applied to chemical compounds, what alterations did these views undergo with the progress of chemical science, and what significance is attached to the terms at the present day?

II. When and how did the first conceptions of the existence of "isomerism" among chemical compounds arise? Show how the theory of isomerism not only explains many observed facts, but has been the means of predicting others, and mention any cases of isomerism which are not accounted for by the theory.

III. How many hydrocarbons are known containing four atoms of carbon in the molecule? Write the graphic formula of each, and mention the name by which each is known.

IV. Give a brief description of the methods by which (1) the molecular formula, and (2) the constitutional formula of acetic acid have been determined.

V. What is aceto-acetic ether? How is it prepared, and for what purposes is it used in chemical research?

VI. How may the acids of the lactic series be obtained (1) from fatty acids, (2) from aldehydes, (3) from ketones? The acids of this series have also the properties of alcohols: mention any reactions which illustrate this double property.

VII. How has citric acid been synthesized from glycerol? Show that this method of preparation fixes its constitution. What relation does citric acid bear to aconitic acid and tricarballylic acid?

VIII. How is chloroform manufactured from alcohol and bleaching powder? The name by which this compound is known indicates incorrect views of its composition; what name properly belongs to it and how did it come to be misnamed? How does chloroform react, (1) with alkalis, (2) with ammonia, and (3) with sulphuric acid and potassium bichromate? Give equations for the changes which occur.

IX. How are the chlorides and sulphides of phosphorus prepared? Give a short account of their uses in chemical investigations.

X. Mention the compounds which are believed to contain a bivalent carbon atom, and state what you know about each.

XI. Describe the method by which the interequivalence of the six atoms of hydrogen in the benzene molecule has been established.

XII. What presumptive evidence is there in favour of mesitylene being a symmetrical compound, and how was the accuracy of the presumption conclusively proved by Ladenburg?

XIII. Give any instances you are acquainted with of the conversion of fatty into aromatic bodies, or of the reverse change.

XIV. Give a brief sketch of the principal methods of orientation in the aromatic series. How would you determine the constitution of any given dibromobenzene and tribromobenzene?

XV. How are the compounds called "carbohydrates" classified? Mention the most important members of each group, and state where they occur and how they may be prepared. The saccharoses are ether-like compounds and the glucoses are regarded as aldehydic alcohols: on what facts is this view of the constitution of these bodies based?

BRANCH III.

MONDAY, 19TH JANUARY, 10 A.M. TO 1 P.M.

GENERAL BIOLOGY.

I. Describe how the epidermis and vascular tissues are developed from the growing point of the stem of a plant.

II. If a plant is grown in the dark it is pale in colour, but if it is removed to a place where it can have plenty of light it turns green. What are the causes of this change of colour, and of what advantage is it to a plant that it should be grown in the light instead of in the dark?

III. Describe in detail the structure of the various organs which make up a perfect flower at the time of its opening

IV. On what parts of a fern do the sexual and asexual organs occur?

V. What is protoplasm? How is it affected by the temperature, the amount of imbibition (or contained) water, the presence or absence of oxygen, respectively? What do you understand by the term "protoplasmic poison"?

VI. Describe, with as many instances as you can, the various movements, other than ciliary and muscular movements, which are exhibited by protoplasm.

MONDAY, 19TH JANUARY, 2 TO 5 P.M.

GENERAL BIOLOGY.

I. Enumerate and give some account of the formation of the structures, other than the cells themselves, which are to be found in the simple animal tissues.

II. Give an account of the histology of muscle.

III. What do you understand by the term "cell metamorphosis"? Give instances in which change in form is associated with change in function.

IV Compare the structure of a few simpler organisms, so as to illustrate the principle of division of physiological labour. Illustrate this principle also by reference to the developmental history of a higher organism.

V. Describe fully the structure of the animal ovum. State the changes which take place in it immediately before fertilization, and describe the mode of formation of the first segmentation nucleus.

VI. Describe and contrast with one another the functions of hæmoglobin and chlorophyll respectively.

BRANCH III.B.

TUESDAY, 20TH JANUARY, 10 A.M. TO 1 P.M.

ANIMAL PHYSIOLOGY.

I. Give an account of the functions of the lymphatic system.

II What are the various factors which determine that some substances are suitable as food and others unsuitable?

III. Describe the microscopical appearances of mixed saliva, milk, starch, lymph, cholesterin, and oxalate of lime. Illustrate your answer by drawings

IV. Give an account of the production, income, and expenditure of heat in the animal body.

V. Trace the steps by which our present knowledge of the functions of the brain has been arrived at.

VI. Give a detailed account of the structure and functions of the retina.

TUESDAY, 20TH JANUARY, 2 TO 5 P.M

ANIMAL PHYSIOLOGY.

I. Describe in detail the mechanism by which the temperature of the body is regulated.

II. Give a general account of the chemistry of muscle. What facts are known as to metabolism in muscle? Give an account of rigor mortis.

III. Describe fully the manner in which urine is secreted by the kidneys. Give an account of any experiments that have been made in connection with this subject.

IV. Describe the effects produced by the following sections of the spinal cord of a living animal:—(1) Complete section, (2) Section of one side, (3) Division in the median line, (4) Section of the posterior white columns, (5) Section of the antero-lateral white columns.

V. Give an account of the development and function of the amnion and allantois

WEDNESDAY, 21ST JANUARY, 2 TO 5 P.M.

ANIMAL PHYSIOLOGY.

Practical Examination.

I. The liquid given contains certain products of digestion. What are they? Give a short written description of the methods you have employed.

II From the animal supplied to you (guinea pig) make preparations illustrating the structure of the mesentery and the tongue.

III. Examination of microscopical preparations supplied by the examiners

THURSDAY, 22ND JANUARY, 11 A.M. TO 1 P.M.

ANIMAL PHYSIOLOGY.

Practical Examination.

I. Make a graphic record to illustrate the nature of incomplete tetanus.

II. Expose the vagus nerve in the animal supplied (dog) to such an extent as would enable you to apply electrodes, but carefully avoid any unnecessary injury.

III. *Viva voce* examination.

BRANCH III.C.

TUESDAY, 20TH JANUARY, 10 A.M. TO 1 P.M.

ZOOLOGY.

I. Describe the structure and mode of development of a calcareous sponge. What views have been held as to the affinities of the sponges?

II. Give an account of parasitism, illustrating your answer by reference to the Protozoa, Trematoda, and Aptera.

III. What conclusions can be drawn as to the relations to one another, and the probable phylogeny, of the various classes of the Arthropoda, from a consideration of the facts of structure and development, respectively?

IV. Describe the structure and life history of Salpa.

V. Give an account of the branchial slits, and the vascular developments connected with them, in the Cyclostome, Selachian, Ganoid, and Teleostean fishes.

VI. Give an account of the principal characteristics and geographical distribution of the Marsupials, comparing them with those of Monotremes.

TUESDAY, 20TH JANUARY, 2 TO 5 P.M.

ZOOLOGY.

I. Describe the structure of a craspedote medusa, and the various ways in which medusiform persons arise.

II. Give an account, by reference to various animals, of the different forms of respiratory organs of arthropods, and their adaptation to the mode of life of the animals.

III. Describe the general plan of structure and mode of development of the craniate brain In what respects do the brain of a frog and the brain of a mammal differ from this type?

IV. Compare with one another, dwelling only on the characters which are of special importance in each case, the skulls of (1) a lamprey and a selachian, (2) a reptile and a bird, (3) a reptile and a mammal, (4) a hare and a dog.

V. Describe the endoskeleton of the shoulder girdle and fore limb of a mammal, and the various modifications which they undergo in different mammals.

WEDNESDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

ZOOLOGY.

Practical Examination.

I. *Prawn.* Make such dissections as will show clearly, by merely looking at your preparation, what differences exist with regard to the attachment of the various gills.

II. *Leech.* Make a preparation of the testicular contents and fix it under the microscope, so that the best part of your preparation may be ready for immediate examination.

III. *Scorpion.* Make a dissection of the nervous system.

IV. *Cockroach.* Mount on a slide an entire salivary gland and receptacle.

V. *Dog* or *Hare.* Dissect the main trunk of the vagus from its exit from the skull to the point of origin of the inferior laryngeal branch. Display also the whole course of the superior and inferior laryngeal branches.

THURSDAY, 22ND JANUARY, 11 A.M. TO 2 P.M.

ZOOLOGY.

Practical Examination.

Identification of the following specimens and preparations:—1. Arthropods (Rhynchota, Coleoptera, Phrynus, Thelyphonus). 2. Skulls of a carnivore, herbivore, and rodent, also herbivore lower jaw. 3. Skull of Varanus, jaw of an Elasmobranch. 4. Shoulder girdle and carpo-metacarpus of a flying bird, coracoid of a ratite bird. 5. Echinoderms (asterids, ophiurids, and echinids). 6. A mass of hydroids polyzoa and sponges adhering to a foreign body. 7. Slide (Daphnia). 8. Slide (Taenia head). 9. Worms (gephyrean, polychaete, nematode, and trematode). 10. Arthropods (pycnogonid, Galeodes, Glomeris). 11. Molluscs (Haliotis, Patella, Doris, Chiton, Heteropod). 12. Tunicates (Pyrosoma, Botryllus, simple ascidian). 13. Amphioxus, Petromyzon, blasmobranch fish, Coecilian. 14. Bird specimens (head of curlew, foot of owl, leg of wading bird, sternum of cursorial bird). State in each case the inference that can be drawn as to the habits of the bird from the preparation exhibited. 15. Alcyonarian to be described briefly. 16. Slide (Anchorplutes of Synapta). 17. Elasmobranch peloic girdle. 18. Dog's skull for identification of various foramina.

BRANCH III.D.

TUESDAY, 20TH JANUARY, 10 A.M. TO 1 P.M.

GEOLOGY.

I. Define the terms—sands, boulder, clay, underclay, loam, tuff, sinter, laterite.

II. Name some of the more important rock-forming minerals

most liable to decomposition by exposure, and some which specially resist atmospheric weathering.

III What are faults? Explain their origin, and illustrate by diagrams the distinction between normal, step, trough, and reversed faults.

IV. Briefly describe the Gulf stream, its influence on climate, and the causes to which it is assigned.

V. Indicate the essential conditions of the composition and arrangement of the strata for a continual water-supply from (1) springs and (2) wells.

VI. Draw an ideal section of a volcano; trace, step by step, the course of its development; and specify its principal products.

VII. What is a mineral? How does it increase, and by what methods are its crystals produced?

VIII. Name the six crystallographic systems, and give the distinctive characters of the prismatic (rhombic) and anorthic (triclinic) systems.

IX. Give examples of (1) dimorphous and (2) polymorphous minerals. How are pseudomorphs formed, and by what means may they be generally recognized?

X. Enumerate the principal ores of iron, and describe fully any *one* of them.

XI. How should you distinguish from each other colourless crystals of Calcite, Dolomite, Anhydrite, and Quartz?

XII. State the chemical composition and directions of easy cleavage of Diamond, Garnet, Apophyllite, Stibnite.

Tuesday, 20th January, 2 to 5 p.m.

GEOLOGY.

I. What are the fundamental rocks in America, Great Britain, and India? Give some account of them individually.

II. Give an account of the Lower Gondwana rocks of India, of their mineral constitution and principal fossils; and explain their distribution in peninsular and extra-peninsular India.

III. Explain the position of the Pliocene deposits occurring along the southern foot of the Himalayan range, and give what information you can concerning the fauna they enclose.

IV. Give an account of the recent or human period, with especial reference to its traces in South India.

V. What are the principal saliferous deposits in England and India? Give a description of them and the formations immediately connected with them.

VI. Give some account of the black soil, known as cotton soil or Regur, and state what is the theory now generally adopted as best accounting for its origin.

VII. Name at least three of the leading fossils from each of the following systems as represented in Great Britain or India:—Cambrian, Devonian, Triassic, Cretaceous, Eocene, and Miocene. Give genus and species, and assign to each fossil its proper place in the Natural Kingdom it belongs to.

VIII. Give some palæontological illustrations of the imperfection of the geological record.

IX. Give some account of the more ancient types of the Equidæ, in illustration of the doctrine of evolution. In what respect did they differ from the living genus Equus?

X. What is the distribution in time of the trilobites? Name some of the principal genera, and assign them to their proper horizons in the geological systems they occur in. What is the special structural characteristic of the order?

XI. Name and specify the botanical alliances of some of the leading coal plants, and give a brief description of a typical coalfield

XII. To what classes and orders do the following organisms belong, and in rocks of what age are they found? Mention a few of the characteristic points of their structure:—Archæopteryx macrura; Plesiosaurus dolichodeirus; Ventriculites decurrens; Cinnamomum Buchii; Stringocephalus Burtini; Pecten islandicus; Didymograpsus Murchisonii.

WEDNESDAY, 21ST JANUARY, 10 A.M. TO 1 P.M

GEOLOGY.

Practical Examination.

I. Construct a horizontal section across the map laid before you along the line indicated.

II. Construct a horizontal section across the map of South India along the line from *A* to *B*.

III. Name some of the causes leading to the deformation of organic remains in the rocks they are imbedded in, and give examples and illustrations of such deforming action.

IV. By what processes are organic remains preserved in sedimentary and sub-aerial formations?

V. Determine the specimens put before you. Indicate the geological horizons they belong to, and state their zoological alliances fully.

WEDNESDAY, 21ST JANUARY, 2 TO 5 P.M.

GEOLOGY.

Practical Examination.

I. Give a description, with sketch map, of the geology of some important district in South India

II. Give an account, in some detail, of the occurrence of diamonds in India; stating the geological horizons in which they are now found, and their mode of occurrence in each case.

III. Determine the minerals put before you, giving your reasons for each determination; point out the principal characters of each mineral, its chemical composition, crystalline system (if any) that it belongs to, and its behaviour before the blow pipe.

IV. Describe and explain the use of either (1) the simple contact or (2) the reflecting goniometer.

V. Determine the rock specimens before you, giving your reasons for each determination Mention the geological horizons to which they may belong and the district from which they were probably derived.

BRANCH IV.

Monday, 19th January, 10 a.m. to 11·30 a.m.

PHYSIOLOGY.

I. Discuss the evidence in support of the conclusion that mental power rises and falls with the size or weight of the brain. Assuming the general truth of the above conclusion, are there any qualifications to it? If so, what are they?

II. Give the leading facts connected with the structure and functions of the Spinal Cord, the Medulla Oblongata, and the Cerebellum.

III. Sensations are localized in the region of the body where the peripheral extremity of the sensory nerve is situated. Is this a primitive endowment of sensibility, or is it a result of experience?

IV. Describe the structure of muscle. What are the main facts with regard to muscle stimulation? Discuss the question whether contractility is an inherent property of muscular tissue, or whether it is due to nerve stimulation. What is the physiological and psychological significance of the existence of two structural varieties of muscle in vertebrates?

V. Define a sense organ and a sensation. Do the organs of so-called organic sensation strictly conform to the definition? How do you explain the fact that some senses contribute more than others to our knowledge of the external world? From a physiological point of view what truth is there in the statement that all the senses are modifications of Touch? Would the assimilation to Touch of the other classes of sensations, considered as physiological states, imply a corresponding assimilation of them when treated as psychical states?

Monday, 19th January, 11·35 a.m. to 1·5 p.m

DEDUCTIVE LOGIC.

I. State Mill's view of the province of Logic and contrast it with that of Hamilton.

II. Discuss the different views that are held as to the relation between the connotation of a general name and the properties of the corresponding class.

III Criticise the scheme of propositional forms drawn up by Hamilton on the basis of his doctrine of quantification.

IV. Discuss the question of the logical foundation of Immediate Inference.

V State clearly the theory of inference which is implied in Mill's account of the syllogism. What is its merit, and what its defect, as compared with the traditional theory?

VI. Complete and reduce to syllogistic form the following argu-

ment:—A truth should not be neglected because it seems unpractical; for many truths that seem unpractical prove upon trial to be applicable to practice.

MONDAY, 19TH JANUARY, 2 TO 5 P.M.

INDUCTIVE LOGIC AND DEFINITION.

I. What different views have been held regarding the relation between Induction and Deduction? Point out the bearing of these views on Logic as a science of Inference. Distinguish between (1) *Perfect* and *Imperfect Induction*; (2) *Induction* and *Generalization*; (3) *Induction* and *Colligation*.

II. It is admitted that the Inductive Methods presuppose the universality of the Law of Causation and that the Law of Causation is itself an Induction. Is this not arguing in a circle? How is it possible to get out of the difficulty?

III. 1. State Whewell's objections to the Inductive Methods and examine their validity.

2. (*a*) What are the difficulties incident to the Method of Agreement? (*b*) What is the advantage peculiar to the Double Method of Agreement which the others do not possess? Estimate the value of the positive and negative branches of this Method. (*c*) Why is the Method of Residues called a deductive method? (*d*) The Method of Concomitant Variations is said to be only a peculiar application of the Method of Difference. If so, what is its independent value?

IV. Explain what is meant by *Compound Effect*, *Heteropathic Effect*, and *Progressive Effect*. Describe fully the method or methods that should be employed in investigating such effects.

V. What are the requisites of a valid Hypothesis? What is a Descriptive Hypothesis? State its uses. What, according to Jevons or Whewell, is the relation between Induction and Hypothesis?

VI. 1. Enumerate and exemplify the principles that govern scientific classification.

2. Distinguish between Deductive and Inductive defining What processes does Inductive defining include?

VII. 1. Explain fully the following terms:—*Consilience of Inductions*, the *Method of Comparison*, *Instantiæ solitariæ*, *vera causa*, *Instantiæ crucis*, *Secondary Law*.

2. Give examples of the following fallacies:—*Non causa pro causa*, *false analogy*, *fallacy of relativity*.

TUESDAY, 20TH JANUARY, 10 A.M. TO 1 P.M.

PSYCHOLOGY.

I. Explain fully the comparative method in Psychology and inquire to what defects this method is subject. What is the value of Mental Pathology to the psychologist? Mill speaks of the psy-

chological method as something different from the introspective Method. Wherein consists the difference? Which would you regard as the more important?

II. In what different senses has the term 'consciousness' been used? State some of the discussions that have arisen owing to the ambiguous use of the term. Enumerate the leading facts that have been adduced to establish the theory of Latent Mental Modifications. How far is the theory entitled to rank as a valid hypothesis?

III. What objections have been taken to the Faculty hypothesis in psychology? Some psychologists regard feeling, others the intellect, others again the will as the fundamental state out of which the other states are derived. What is your view?

IV. State and examine the evidences that have been adduced to prove that our existing sensations are psychically complex. Is touch or sight more important in accounting for objective perception? Give reasons.

V. How far does the prevailing enumeration of the Laws of Association exhaust the powers of intellect? Distinguish between the *primary* and the *secondary* laws of Association. On what principles of Association will you account for the following? (1) Joy reminds us of sorrow. (2) The wound under which I suffer recalls the blow which caused it. (3) There are many cases when a thought seems at once to dart into the mind, which has no apparent connection with any thought or thing that is present. (4) In old age nothing is so vivid and distinct as the memories of youth and childhood.

VI. What are the different intellectual processes included under 'Imagination'? State the exact relation between Conception and Imagination. Account for the popular notion that imagination and understanding are opposed to each other. Many persons who can in most cases reach sound conclusions are quite unable afterwards to justify them. How do you account for this?

VII. "I persist in saying with Sir W Hamilton," writes J. S. Mill, "that on the free-will doctrine, volitions are emancipated from causation altogether." Do you know of any attempt that has been made to reconcile the Free Will doctrine with the Law of Causation? Examine briefly the arguments usually brought forward in support of Libertarianism. Distinguish between Fatalism and Determinism.

VIII. What different principles have been adopted in classifying Emotions? What difficulties are there in the way of a scientific system of classification of Emotions? Analyse the feeling aroused in the mind of one who contemplates the starry heavens. Examine psychologically the several causes of Belief, and explain the action of the Emotions in Belief.

IX. What arguments have been adduced to prove that the mind is always active? Explain briefly the phenomenon of hypnotism. Account for (1) belief in the reality of representations in dreams, (2) the rapidity of the trains of thought in dreaming, (3) the coherence of dreams.

TUESDAY, 20TH JANUARY, 2 TO 5 P.M.

PSYCHOLOGY.

I. In the controversy regarding the origin of knowledge, what do philosophers mean by 'necessary' truth? State the chief arguments *pro* and *con.* regarding the position that necessary truths cannot be of experiential origin.

II. What is the Universal postulate of Mr. Herbert Spencer? State and estimate the value of what you consider the strongest objections against it.

III. What is known as the Berkeleian theory of Vision? State briefly how perception of distance by the eye is explained on this theory, and support the theory by stating and refuting what you regard as the strongest arguments which may be urged in favour of the opposite theory of Intuitive perception.

IV. In the question regarding External Perception, what do philosophers mean by 'matter'? Comment on the following passage from Berkeley so as to show clearly how far he can be said to have sided with common sense in denying the existence of 'matter.'

"That the things I see with my eyes and touch with my hands do exist, really exist, I make not the least question. The only thing whose existence I deny is that which philosophers call matter, or corporeal substance, and in doing this there is no damage done to the rest of mankind, who, I dare say, will never miss it."

V. Classify the different 'Cosmological' systems, pointing out briefly their characteristic differences and naming a representative philosopher for each.

VI. State Hume's theory of causation; and show how Locke's theory of ideas became in the hands of Hume a philosophy of scepticism.

VII. Show that the famous question which forms the starting point of Kant's philosophy, *viz.*, 'How are synthetic judgments *à priori* possible?' is only a new form of the old question 'How can we have any knowledge independent of experience?' and give the substance of his reply to that question.

What does Kant understand by saying that 'space' and 'time' are 'forms' of intuition, and what proof does he give of their *à priori* nature? With what modifications will (1) Mill and (2) Mr. Herbert Spencer accept the Kantian view of space and time?

VIII. Define 'ontology.' State and estimate the value of what is known as the 'teleological' proof of the existence of God.

WEDNESDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

THEORY OF ETHICS.

I. How is the relation of Ethics to Politics conceived by the different schools of moralists?

II. Under the head of the Psychology of Ethics Bain discusses the question of Disinterestedness. State clearly what the question is; and point out its bearing on Ethics.

III. What is known as the intellectual theory of morals; and what place, psychological and ethical, does the Moral Faculty occupy in this theory? How do the up-holders of this theory explain the phenomenon of moral obligation? Kant says that the 'ought' of duty implies a 'can.' Show that in a sense this represents also the Determinist's position.

IV. What is meant by the sanctions of morality; Give any classification of sanctions with which you are acquainted. Discuss the question whether a theory of sanctions is a necessary part of every system of ethics.

V. The observed similarities and dissimilarities in the moral codes of different nations are pointed to by the utilitarian as an argument in support of his theory. How does he explain the dissimilarities on his principle of utility? Is a recognition of these dissimilarities fatal to the intuitive theory of moral judgments?

VI. It is urged as an objection to utilitarianism that while every one knows what is 'right,' very few could say what would on the whole be useful. Examine how an utilitarian would meet this objection.

VII. What different views have been held regarding the relation of Virtue to Duty? Is it consistent with the Intuitional theory of moral obligation to recognise a distinction between Virtue and Duty?

VIII. It is held by many moralists that religion is essential to morality Why? Would it be correct to say that all those who hold this view are in reality utilitarians?

WEDNESDAY, 21ST JANUARY, 2 TO 5 P.M.

HISTORY OF ETHICS.

Epicureanism.

1. Are there any features in the life of Epicurus and his immediate followers, or any characteristics in his teaching, to justify the popular belief that Epicureanism looks upon sensuous enjoyment as the highest good? If you think there are, state them, and show how they led to the unfavourable opinion that prevailed. If you think there are not, how do you account for the early, and widespread existence of this popular belief, and how do you explain its persistence down even to modern times?

II. What, according to Aristippus and Epicurus, is the fundamental pleasure? Point out the common features of Cyrenaicism and Epicureanism, and show (1) at what point Epicurus diverged from Aristippus (2) the extent of the divergence as shown in the developed doctrines of the two schools, and (3) the ideas by means of which this divergence was brought about

III. How does Epicurus attempt to get over the objection often raised against every form of utilitarianism that the realization of the end, namely, pleasure or happiness, is apt to be interfered with by the means employed for attaining it, namely, effort, pain, or suffering? Does his solution of the difficulty tend towards a raising or a lowering of the moral ideal?

TUESDAY, 20TH JANUARY, 10 A.M. TO 1 P.M.

HISTORY OF THE MIDDLE AGES.

I. Enumerate the various Teutonic peoples which made settlements within the Empire during the fifth century, and the territories occupied by each. Which, if any, of the States of modern Europe may be said to owe their origin to such settlements?

II. Draw a map showing the extent of the empire under Otto the Great.

III. "In the tenth century the chair of Mahomet was disputed by 'three Caliphs, or Commanders of the faithful, who reigned at 'Bagdad, Cairoan, and Cordova, excommunicated each other, and 'agreed only in a principle of discord, that a sectary is more criminal 'than an unbeliever." (*Gibbon.*) Explain how this division of the Caliphate arose, what family each of the three rival Caliphs represented, and what the respective claims of these families to the Caliphate were.

IV. Give a brief account of the foundation of the Norman kingdom of Sicily. Into whose hands did it fall on the extinction of the Guiscard dynasty, and by what title?

V. Compare the dominions and position in Europe of Frederick II. with those of Charles the Great.

VI. Mr. Bryce describes the mediæval Empire as alternately the champion and the enemy of the Ecclesiastical power. Explain the causes of this varying relationship, and state the periods during which each phase prevailed.

VII. Who were the Seven Electors as fixed by the golden Bull of Charles IV.? On what other princes was the electoral dignity afterwards conferred, and by whom?

VIII. Explain the causes that led to the consolidation of the monarchy in France and England and its degradation in Germany

IX. State briefly, with dates, what you know of the following:—battle of Châlons, Leo the Isaurian, Basil the Macedonian, Alberic, the Lombard League, Council of Constance, battle of Varna.

TUESDAY, 20TH JANUARY, 2 TO 5 P.M.

MODERN HISTORY AND HISTORY OF GREAT BRITAIN.

Not more than eight questions are to be attempted, of which four must be from each section.

I. Discuss the part played by Shaftesbury in the reign of Charles II., noting (1) his aims, (2) his measures, (3) the practical results.

II. Describe the Irish Campaign of 1689-90.

III. (1) What was the immediate cause which led to the passing of the 'Act of Union' with Scotland? (2) Mention the chief provisions of the Act. (3) Wherein did the United Parliament thus constituted differ from the United Parliament of Cromwell?

IV. Enumerate the changes in British Foreign Possessions which

took place during the reign of George III., mentioning briefly the circumstances which produced the leading changes, with dates.

V. Describe the passage through Parliament of the Reform Bill in 1832, and indicate its nature. What further developments of the 'Representation' principle have taken place since then?

VI. What is understood by the 'Eastern Question' in British Politics? State briefly how it has influenced the foreign action of Britain during the last hundred years.

VII. Discuss the causes of the revolt of the Netherlands, distinguishing them as Social, Political, Religious.

VIII. 1. Show how the interests of England and the United Provinces were related in the reign of Elizabeth.

2. Mention, giving details, the practical services rendered by each to the other during this period.

IX. (1) What were the leading terms in the 'Pacification of Ghent'? (2) How did it differ from "the Perpetual Edict"? (3) What was the consequence of this difference on the history of the Provinces?

X. Write short notices on the following, stating their position in the struggle:—Duke of Alençon, Heemskerk, Balthasar Gerard, Van Tromp, Louis of Nassau, De la Marck.

XI. (1) Distinguish between the real and ostensible causes of the death of Barneveldt. (2) In what respects was his death a decisive event for the future of the Netherlands?

XII. (1) State the chief provisions of the Peace of Munster. (2) In how far were the original aims of William of Orange attained by it? In how far were they exceeded, and in how far left unaccomplished?

Wednesday, 21st January, 10 a.m to 1 p.m.

ESSAY.

Write an essay on any one of the following subjects:—

1. The causes that led to the rise and decline of the Dutch Republic.
2. Trace the expansion of the Aryan supremacy and show the chief dangers that have assailed it.
3. The character and political work of Constantine the Great.
4. The influence of literature upon the history of a country.

Wednesday, 21st January, 2 to 5 p.m.

POLITICAL ECONOMY.

I. Why are definitions so important in Political Economy, and so difficult to frame? Define accurately *Value*, *Price*, *Money*, *Capital*.

II "From Ricardo's theory of rent there can be deduced a very important proposition." What is this proposition, and how does Fawcett demonstrate it?

III. Compare and contrast *Fertility* and *Productiveness*; *Wages of labour*, and *Cost of labour*; *Credit* and *Capital*; the relative advantages and disadvantages of *Loans* and *Taxation*.

IV. Examine the following assertions:—(1) "Political Economy

is a deductive science." (2) "The economic well-being of a state is in proportion to the quantity of money which circulates in it." (3) "Many of the most important lessons in political economy are to be learnt at the extreme margin of cultivation."

V. Explain (1) the circumstances which decide the rate of interest prevailing in a country; (2) the requisites of the article to be used as a medium of exchange.

VI. "The various trades and occupations of which the industry of a country is composed have each a scale of profits peculiar to itself." "The profits of different trades have a constant tendency to become equalised." Do these statements admit of any reconciliation?

VII. What important omission is there in Adam Smith's list of the advantages arising from a division of labour?

VIII. Explain *effectual demand extractive industry, incidence of taxation, seignorage, inconvertible paper-money.*

M.A. DEGREE EXAMINATION, 1891.

BRANCH I.

MONDAY, 19TH JANUARY, 10 A.M. TO 1 P.M.

ALGEBRA AND TRIGONOMETRY.

I. Solve the equations $\frac{x-a}{y-b}+\frac{y-b}{x-a}=\frac{a}{b}+\frac{b}{a}=\frac{x-b}{y-a}+\frac{y-a}{x-b}$

II. If x and y be unequal, prove that $mx^{m-1}(x-y)>x^m-y^m>my^{m-1}(x-y)$ unless m lie between 0 and + 1, in which case the sign $>$ must be replaced by $<$.

If $y>x>1$, prove that $\left(1+\frac{1}{y}\right)^y>\left(1+\frac{1}{x}\right)$

III. Sum the series $1^5+2^5+3^5+\ldots\ldots+n^5$, and prove that the limit of $(1^r+2^r\quad\quad+n^r)/n^{r+1}$ when n is infinite, is $\frac{1}{r+1}$

IV. If $\frac{p_n}{q_n}$ be the nth convergent to $a_1+\frac{b_2}{a_2}+\frac{b_3}{a_3}+\ldots$ prove that

$$p_n=a_n p_{n-1}+b_n p_{n-2}$$
$$q_n=a_n q_{n-1}+b_n q_{n-2}$$

Prove that the series $\frac{1}{a}-\frac{1}{ab}+\frac{1}{abc}-\frac{1}{abcd}+\ldots$ is equal to

$$\frac{1}{a+b-1+\frac{a}{c-1+\frac{b}{d-1+\frac{c}{\ldots}}}}$$

and that

$$e^x=\frac{1}{1-x+1-\frac{x}{2+\frac{x}{-x+3-\frac{2x}{x+4-\frac{3x}{\ldots}}}}}$$

V. Prove Fermat's Theorem.

If x be prime to n, and n be prime, then $x^{n(n-1)} - 1$ is divisible by n^2.

VI. Prove that the roots of the equation $x^3 - 3x + 1 = 0$ are $2\cos\frac{2\pi}{9}$, $2\cos\frac{4\pi}{9}$, $2\cos\frac{8\pi}{9}$, and that the product of the differences of the roots is equal to 9.

VII If the substitution $x = ky + m$ make the biquadratic $X = x^4 + 4bx^3 + 6cx^2 + 4dx + e = 0$ become a reciprocal equation, prove that m is a root of $X\left(\frac{d^3X}{dx^3}\right)^2 - 36\left(\frac{dX}{dx}\right) = 0$

If $\alpha, \beta, \gamma, \delta$ be the roots of the biquadratic, show that the values of m are $\frac{\alpha\beta - \gamma\delta}{\alpha + \beta - \gamma - \delta}$ and two similar expressions

Solve $x^4 - x^3 + 5x^2 - 3x + 6 = 0$

VIII. If $\sin^{-1}x$ denote that angle between $-\frac{\pi}{2}$ and $+\frac{\pi}{2}$ whose sine is x, and if $z = x\sqrt{(1-y^2)} + y\sqrt{(1-x^2)}$ where the square roots are taken positively, prove that if x and y have different signs, or the same sign provided that $x^2+y^2<1$, $\sin^{-1}x+\sin^{-1}y=\sin^{-1}z$; but if $x^2 + y^2 > 1$ then $\sin^{-1}x + \sin^{-1}y = \pi - \sin^{-1}z$, if x and y are both positive; and $\sin^{-1}x + \sin^{-1}y = -\pi - \sin^{-1}z$ if x and y are both negative.

IX Sum the series $\sin\theta + 3\sin2\theta \mid 5\sin3\theta + 7\sin 4\theta + \ldots$ to n terms; and find the value of $f(x)$ where $f(x) = \sin x - \frac{1}{2}\sin 2x + \frac{1}{3}\sin 3x - \ldots$ to infinity.

Show that the latter series is discontinuous at $x = (2n+1)\pi$, where n is an integer; and draw the locus $y = f(x)$

X. Prove the formula $\cos a = \cos b \cos c + \sin b \sin c \cos A$

If $a + b + c = \pi$ prove that $\cos A + \cos B + \cos C = 1$

Monday, 19th January, 2 to 5 p.m.

CO-ORDINATE GEOMETRY.

I. Investigate the equation to the asymptotes of the conic

$$ax^2 + 2hxy + by^2 + 2gx + 2fy + c = 0.$$

Determine the values of a and b so that the hyperbolas $x^2 + xy - 2y^2 + ax + y = 0$; $2x^2 + 3xy + by^2 + 8x - y = 0$ may have a common asymptote; and find the equation of the hyperbola which passes through the origin and has the other asymptotes for its asymptotes.

II. Prove that through any given point two confocals can be drawn to the ellipse $x^2/a^2 + y^2/b^2 = 1$.

The envelope of the polar of a given point with respect to a system of confocal conics is a parabola whose directrix is the join of the given point to the centre of the confocals.

III Shew that the polar reciprocal of one circle with respect to another is a conic. When will it be a parabola? Show that Brianchon's theorem about the diagonals of a circumscribed hexagon can be obtained by reciprocation from Pascal's

IV In the general equation

$$wua^2\, v\beta^2 + w\gamma^2 + 2u'\beta\gamma + 2v'\gamma a1\beta + 2\, w'a\beta = 0$$

explain the geometrical signification of the vanishing (1) of any one coefficient, (2) of u, v, w.

Upon the sides of ABC are described three similar isosceles triangles $A'BC$, $B'CA$, $C'AB$ (all inwards or all outwards). prove that the point of concurrence of AA', BB', CC' describes the curve

$$\frac{\sin(B-C)}{a} + \frac{\sin(C-A)}{\beta} + \frac{\sin(A-B)}{\gamma} = 0$$

and that this curve is a rectangular hyperbola.

V. Obtain, in the form $ua^2 + v\beta^2 + w\gamma^2 = 0$ the equation of a conic touching four given straight lines

Prove that the director circles of all conics which are inscribed in the same quadrilateral have a common radical axis

VI Find the equation of the plane drawn through the line $\frac{x-a}{l} = \frac{y-b}{m} = \frac{x-c}{n}$ parallel to $\frac{x-a'}{l'} = \frac{y-b'}{m'} = \frac{z-c'}{n'}$.

The shortest distance between the straight lines $x + 3 = \frac{1}{2}(y + 6) = 2(z - 1)$ and $y - 3x = z = 0$ is $\sqrt{\frac{25}{14}}$

VII Define the radical plane of two spheres A and B, and shew that it contains the centres of all the spheres cutting A and B at right angles

If the tangents from a point P to A and B be to one another in the ratio of their radii, the locus of P is a sphere whose diameter is divided harmonically by the centres of the spheres

VIII Show that from any point $(\alpha,\beta,\gamma,)$ six normals can be drawn to the ellipsoid $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$.

If the feet of the normals be three and three on two parallel planes, then $\left(\frac{b}{c} - \frac{c}{b}\right)\alpha = \left(\frac{c}{a} - \frac{a}{c}\right)\beta = \left(\frac{a}{b} - \frac{b}{a}\right)\gamma$

IX Distinguish between *developable* and *skew* surfaces and give examples of each kind

Find the generating lines through any point of an hyperboloid and shew that their projections on the principal planes are tangents to the principal sections

X Name the central surfaces of the second degree and find the condition that the general equation may represent any one of them.

Discuss the equation

$$a(x^2 + 2yz) + b(y^2 + 2zx) + c(z^2 + 2xy) = 0$$

and state what surfaces it represents for different values of a,b,c

TUESDAY, 20TH JANUARY, 10 A.M. TO 1 P.M

NEWTON AND DIFFERENTIAL CALCULUS.

I. Give the enunciation of Lemma X

Describe a method of geometrically representing the square of the velocity generated by a force, which acts upon a body moving in the direction of the force's action, when the force depends in any manner upon the distance from any fixed point in that direction.

Find the velocity acquired from rest, when a body is acted on by an attractive force whose accelerating effect varies as the distance from a fixed point Find also the time of describing a given space from rest.

II Having given the velocity with which a body is moving at any three points of a given orbit, described by it under the action of forces tending to a common centre, find that centre

If the velocities at three points of a central orbit be respectively proportional to the opposite sides of the triangle formed by joining the points, and have their directions parallel to the same sides, prove that the centre of force is the centre of gravity of the triangle.

III A body revolves in an ellipse Find the law of force tending to a focus of the ellipse

A body, describing an ellipse about a centre of force in S, has a velocity equal to its own communicated in the direction PH, which causes it to describe a circle Determine the eccentricity of the original orbit, and shew that the diameter of the circle is four times the latus rectum of the ellipse

IV 1 If $y = \cos^{-1}\sqrt{\sin 2x} + \cos \text{h}^{-1}\sqrt{\sin 2x}$, find $\frac{dy}{dx}$

2 If $y = (A \cos nx + B \sin nx)\, x^{m-\frac{1}{2}}$, show that

$$x^2\frac{d^2y}{dx^2} - (2m-1)\,x\frac{dy}{dx} + (n^2x^2 + m^2 - \tfrac{1}{4})y = 0$$

3 If $y = (x + \sqrt{a^2 + x^2})^m$, prove that

$$\left.\frac{d^4y}{dx^4}\right] 0 = m^2\,(m^2 - 4)\,am - 4$$

4. Differentiate x^n log tan ^{-1}x with regard to $\frac{\sin\sqrt{x}}{x^{3/2}}$

V. 1 If $(\sin^{-1}x)^2 = a_0 + a_1 x + a_2x^2 + a_3 x^3 +$, show that

$$(n+1)\,(n+2)\,a_{n+2} = n^2a_n.$$

2 Prove that

$$\tan^{-1}(x+h) = \tan^{-1}x + (h\sin\theta)\sin\theta - \frac{(h\sin\theta)^2}{2}\sin 2\theta + \frac{(h\sin\theta)^3}{3}$$

$\sin 3\theta -$. , when $x = \cot\theta$ Deduct from the above that

$$\frac{\pi}{2} = \frac{\sin\theta}{\cos\theta} + \frac{1}{2}\,\frac{\sin 2\theta}{\cos^2\theta} + \frac{1}{3}\,\frac{\sin 3\theta}{\cos^3\theta} + \frac{1}{4}\,\frac{\sin 4\theta}{\cos^4\theta} +$$

VI. Prove Lagrange's Theorem on the limits of Taylor's Theorem.

If $\phi(x) = (x-a)^{\frac{3}{2}}$, at what term does the expansion of $\phi(x+h)$ by Taylor's Theorem fail? Find the value of θ in the remainder according to Lagrange's Theorem.

VII 1. If $f(a) = \infty$ and $\phi(a) = \infty$, find the limiting value of $\frac{f(x)}{\phi(x)}$ when $x = a$.

2 Prove that $\mathrm{Lt}_{x=\infty} \{\phi(x)\}^x = \mathrm{Lt} \frac{\phi(a+1)}{\phi(x)}$.

3 Find $\mathrm{Lt}_{\theta=0} \frac{d^2y}{dx^2}$ when $y = \frac{\theta}{\sin\theta}$ and $\cos\theta = 1 - x$.

VIII 1 If $x = ae^\theta \cos\phi$, and $y = ae^\theta \sin\phi$, show that

$$y^2\frac{d^2u}{dx^2} - 2xy\frac{d^2u}{dxdy} + x^2\frac{d^2u}{dy^2} = \frac{d^2u}{d\phi^2} + \frac{du}{d\theta}.$$

2 Eliminate the arbitrary functions from the equation

$$x = \phi\{x + f(y)\}.$$

IX Give a method of investigating the character of any specified point on a curve.

Examine the nature of the double point on the curve

$$(x+y)^3 - \sqrt{2}(y-x+2)^2 = 0.$$

Show that the curve $(x^2+y^2)^2 = a(3x^2y - y^3)$ has a triple point at the origin, and that the angles between the branches through the origin are equal.

X. Find the centre and radius of a circle which has a contact of the second order with a curve at a given point.

With the usual notation, prove for any curve the formula

$$\rho = \frac{r}{\sin\phi\left(1 + \frac{d\phi}{d\theta}\right)} \text{ where } \tan\phi = \frac{rd\theta}{dr}.$$

XI Trace the following curves.

1. $ay^2 = x^2y + x^3$.

2 $y(y-x)^2(y+2x) = 3a^2x^2$.

XII Shew that the inverse of a conic with regard to the focus is a Limaçon, which becomes a cardioid if the conic be a parabola

Tuesday, 20th January, 2 to 5 p.m.

INTEGRAL CALCULUS AND DIFFERENTIAL EQUATIONS.

I If $\frac{d}{dx}\psi(x) = \phi(x)$ shew that the limit when n is infinite of $\Sigma\phi\left(a + \frac{rh}{n}\right)$ is $\psi(b) - \psi(a)$, where $nh = b - a$ and the summation extends from $r = 0$ to $r = n$.

Find the limit when $n = \infty$ of $e^h\, a(a+h)\,(a+2h) \quad (a+nh)$ where $b = a + nh$.

II. Integrate $\dfrac{1}{1+\tan x}$, $\dfrac{1}{(1+x)\sqrt{1+x+x^2}}$, $\dfrac{x^4}{(x-a)^2(x-b)}$, and $\left(\dfrac{a+x}{a-x}\right)^{\frac{3}{2}}$.

III. Find a formula of reduction for $\int x^m (1+x^2)^{\frac{n}{2}}\, dx$ and complete the integration when $m = 5$ and $n = 7$.

IV Prove that $\int_0^\infty \dfrac{x^{2m}}{1+x^{2n}} dx = \dfrac{\pi}{2n \sin\left[(2m+1)\,\pi/2n\right]}$ if m be less than n; and that $\int_0^\infty \dfrac{y^{k-1}}{1+y} dy = \dfrac{\pi}{\sin k\pi}$ if k be between 0 and 1

Hence (or otherwise) show that $\int_0^\infty \dfrac{\log x}{1+x^4}\, dx = -\dfrac{\pi^2}{8\sqrt{2}}$.

V. Prove that the area of a curve can be expressed as $\frac{1}{2}\int x^2 dt$ where $t = y/x$, and show that the area included between the curve $x^2y + xy^2 = c^2$ and the positive parts of the axes of x and y is $\dfrac{\sqrt{3}}{4\pi} c^2 \{\Gamma(\tfrac{1}{3})\}^3$.

VI If u and v be functions and x and y, explain how to change the variables in the double integral $\iint \phi(x, y)\, dxdy$ from x, y to u, v.

Change the variables in $\iint \dfrac{dxdy}{\sqrt{(a^2y^2 + b^2x^2 + a^2b^2)}}$ to r, ϕ, where $x = r\cos\phi$, $y = \dfrac{b}{a} r \sin\phi$; and thence find the value of the integral when the summation extends over the area included between the two lines $y = 0$, $y = x$, and the ellipse $a^2y^2 + b^2x^2 = a^2b^2$.

VII. Show that $\int_0^{\frac{1}{2}\pi} \cos^{p-1} x \sin^{q-1} x\, dx$ is equal to $\frac{1}{2}\beta\left(\dfrac{p}{2}, \dfrac{q}{2}\right)$.

If V be the volume enclosed by the surface $\left(\dfrac{x}{a}\right)^{\frac{4}{3}} + \left(\dfrac{y}{b}\right)^{\frac{4}{3}} + \left(\dfrac{z}{c}\right)^{\frac{4}{3}} = 1$, and A the area of the curve in which it cuts the plane of xy, show that $15Vab = 4\sqrt{2}\, A^2c$.

VIII. Show how to solve the linear equation of the first order

$$\frac{dy}{dx} + Py = Q.$$

Solve the equations

1. $(x^2-a^2)\frac{dy}{dx}+xy=(x+a)\sqrt{x^2+a^2}$

2. $\frac{dy}{dx}=f\left(\frac{ax+by}{a'x+b'y}\right)$

IX. A differential equation can sometimes be reduced to an easily integrable form by differentiation. In such cases, under what restrictions is the final integral a solution of the original equation?

Integrate

1. $3y-x=\frac{2x-1}{2}\frac{dy}{dx}+\left(\frac{dy}{dx}\right)^2$

2. $\frac{d^3y}{dx^3}+x^2\frac{d^2y}{dx^2}-2x\frac{dy}{dx}+2y=x^2$

X. Explain the method of variation of parameters as applied to the solution of the equation of the second degree.

Solve the equation $\frac{d^2y}{dx^2}+y=c\sec^2x$.

XI. Explain Lagrange's method of solving the linear partial differential equation of the first order.

Solve the equations

1. $x^2y\frac{dz}{dy}+xy^2\frac{dz}{dy}=z^3$.

2. $\log\frac{y}{z}\frac{dz}{dx}+\log\frac{z}{x}\frac{dz}{dy}=\log\frac{z}{y}$.

WEDNESDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

ADDITIONAL PAPER ON PURE MATHEMATICS.

1. Distinguish between absolutely convergent, semi-convergent, oscillating, and divergent series.

If $f(n)$ be positive for all values of n, and constantly decrease as n increases, prove that $\Sigma f(n)$ is convergent or divergent according as $\Sigma a^n f(a^n)$ is convergent or divergent, where a is any positive integer <2.

Show that the series obtained by expanding $(1+x)^m$ by the binomial theorem is convergent if $x<1$ and divergent if $x>1$, whatever m may be; but that if $x=1$, the series is absolutely convergent if $m<0$, semi-convergent if $-1<m<0$, oscillating if $m=-1$, and divergent if $m<-1$.

II. If $F(\alpha,\beta,\gamma,x)=1+\frac{\alpha\,.\,\beta}{1\,.\,\gamma}x+\frac{\alpha(\alpha+1)\,.\,\beta(\beta+1)}{1\,.\,2\;\;.\,\gamma(\gamma+1)}x^2+$

prove that $\frac{F(\alpha,\beta+1,\gamma+1,x)}{F(\alpha,\beta,\gamma,x)}=\frac{1}{1}-\frac{ax}{1}-\frac{bx}{1}-\frac{cx}{1}-\frac{dx}{1}-\cdots$

where $a = \frac{\alpha(\gamma-\beta)}{\gamma(\gamma+1)}$, $b = \frac{(\beta+1)(\gamma+1-\alpha)}{(\gamma+1)(\gamma+2)}$,

$c = \frac{(\alpha+8)(\gamma+1-\beta)}{(\gamma+2)(\gamma+3)}$, $d = \frac{(\beta+2)(\gamma+2-\alpha)}{(\gamma+3)(\gamma+4)}$, etc.

Prove $e^x = \frac{1}{1} - \frac{x}{1} + \frac{x}{2} - \frac{x}{3} + \frac{x}{2} - \frac{x}{5} + \frac{x}{2} - \frac{x}{7} + \cdots$

III. If $\phi(x) = a_0 + a_1 x + a_2 x^2 + \ldots$ and $\alpha, \beta, \gamma, \ldots$ be the nth roots of -1, prove that

$$a_m x^m - a_{m+n} x^{m+n} + a_{m+2n} x^{m-2n} - \ldots$$

where $m < n$, is equal to

$$\frac{1}{n} \{ \alpha^{2n-m} \phi(\alpha x) + \beta^{2n-m} \phi(\beta x) + \ldots \}$$

IV. Prove that the anharmonic ratio of the pencil formed by joining four fixed points on a conic section to any fifth point is constant.

A conic passes through four fixed points, A, B, C, D; show that the locus of its centre is another conic passing through the points of intersection of the opposite side and of the diagonals of the quadrangle $ABCD$, and also, through the middle points of the sides and diagonals. What is the condition that this locus should be a circle?

V. Define the Gamma function, and prove that, with the usual notation, $B(m,n) = \frac{\Gamma(m)\,\Gamma(n)}{\Gamma(m+n)}$

Prove that

1. $$\sum_{n=2}^{n=\infty} \frac{1}{n^m} = \frac{1}{\Gamma(m)} \int_0^\infty \frac{e^{-2x} x^{m-1}}{1-e^{-x}} dx$$

2. $$\sum_{m=2}^{m=\infty} \sum_{n=2}^{n=\infty} \frac{1}{n^m} = 1.$$

VI. Find the equation to the tangent plane at any point of a conicoid. Tangent planes at two points P and Q, one on each of two confocal quadrics, intersect in a line RS: if the plane through RS and the centre bisect the line PQ, show that the tangent planes are at right angles to one another.

VII. Show that the complete primitive of the equation

$$x(1-x)\frac{d^2y}{dx^2} + \{\gamma - (\alpha+\beta+1)x\}\frac{dy}{dx} - \alpha\beta y = 0$$

is $AF(\alpha, \beta, \gamma, x) + Bx^{1-\gamma} F(\alpha+1-\gamma, \beta+1-\gamma, 2-\gamma, x)$ where $F(\alpha, \beta, \gamma, x)$ is the series defined in question II.

VIII. Solve the equations

$$(1+x^2)^2 \frac{d^2y}{dx^2} + 2x(1+x^2)\frac{dy}{dx} + n^2 y = 0,$$

$$\frac{d^2y}{dx^2} = \left(\frac{dy}{dx} - x\frac{d^2y}{dx^2}\right)^2,$$

$$xp + yq + x + y = 0;$$

and show that the general integral of $\frac{d^2y}{dx^2} - n^2y = \frac{m(m+1)}{x^2}y$ is

$$x^m\left(\frac{d}{dx}\frac{1}{x}\right)^m (Ae^{nx} + Be^{-nx}).$$

IX. Prove that $\iint \nabla dx dy = \iint \nabla \left(\frac{dx}{d\xi}\frac{dy}{d\eta} - \frac{dx}{d\eta}\frac{dy}{d\xi}\right) d\xi\, d\eta$

Prove that

$$\int_0^\infty\int_0^\infty\int_0^\infty \frac{(x^2+y^2+z^2)^{\frac{1}{2}m}}{(x^2+y^2+z^2+a^2)^{\frac{1}{2}(m+5)}}\, dx\, dy\, dz = \frac{\pi}{2(m+3)a^2}$$

X. Define the absolute curvature and the torsion of a tortuous curve; and prove that the radius of absolute curvature is

$$\left\{\left(\frac{d^2x}{ds^2}\right)^2 + \left(\frac{d^2y}{ds^2}\right)^2 + \left(\frac{d^2z}{ds^2}\right)^2\right\}^{-\frac{1}{2}},$$

and that the direction-cosines of the principal normal are proportional to $\frac{d^2x}{ds^2}, \frac{d^2y}{ds^2}, \frac{d^2z}{ds^2}$.

Wednesday, 21st January, 2 to 5 p.m.

PROBLEMS IN PURE MATHEMATICS.

I. AA', BB', CC' bisect the angles of the triangle ABC and meet the opposite sides in A' B' C'.

Prove that $\triangle A'B'C' : \triangle ABC = 2abc : (b+c)(c+a)(a+b)$, and that $\triangle A'B'C' = AA'.\ BB'.\ CC \div 2(a+b+c)$.

II. If a, b, c be rational quantities such that $2b^2c^2 + 2c^2a^2 + 2a^2b^2 - a^4 - b^4 - c^4$ is a perfect square, show that a, b, c, must be of the forms $\lambda\frac{uv}{u^2+v^2}$, $\lambda\frac{xy}{x^2+y^2}$, $\lambda\frac{(ux-vy)(vx+uy)}{(u^2+v^2)(x^2+y^2}$ where u, v, x, y are integers and λ is a rational quantity.

III. Prove $\sum_{n=-\infty}^{n=+\infty} \frac{1}{(n+\theta)^4} = \frac{1}{3}\pi^4(1 + 4\cot^2\pi\theta + \cot^4\pi\theta)$

IV. Prove that eight angular points of a regular dodecahedron can be selected to form the angular points of cube. In how many ways can this be done?

V. Prove that the polars with respect to a conic of the angular points of a triangle meet the opposite sides in three collinear points.

VI. A parabola rolls on a straight line: show that its focus describes a catenary.

VII. The area of the conic whose equation in areal coordinates is
$$ax^2 + by^2 + cz^2 + 2fyz + 2gzx + 2hxy = 0$$
is $$\frac{2\pi(af^2 + bg^2 + ch^2 - abc - 2fgh)\Delta}{\{bc - f^2 + ca - g^2 + ab - h^2 + 2(gh - af) + 2(hf - bg) + 2(fg - ch)\}^{\frac{1}{2}}}$$
where Δ is the area of the fundamental triangle.

VIII. Prove $$\int_0^{\frac{1}{2}\pi} \cos(x + m\sin x)e^{m\cos x}\,dx = \frac{\sin m}{m}$$

IX. D is the middle point of one side BC of a spherical triangle ABC: prove that $\tan^2 AD = (\sin^2 b + \sin^2 c + 2\sin b \sin c \cos A)/(\cos b + \cos c)^2$.

X The principal radii of curvature of the surface $z = f\left(\frac{y}{x}\right)$ are equal and opposite at all points of the curve where the given surface intersects the surface $\frac{d^2z}{dx^2} + \frac{d^2z}{dy^2} = 0$.

Thursday, 22nd January, 10 a.m. to 1 p.m.

DYNAMICS.

I A point moves in a plane curve. Find expressions for the acceleration at any instant along and perpendicular to the radius vector.

Two rods AB,BC, whose lengths are l and $2l$, are jointed at B and rotate with angular velocities ω and 2ω, the end A being fixed. Find the acceleration of C at any instant along and perpendicular to AC.

II. A particle moves under the influence of a central force; determine the motion.

If $P = h^2a^{2n}u^{2n+3}(1 + n)$, where h and u have their usual signification, find the equation of the path described, it being given that there is an apse at the point where $u = 1/a$.

III. If at any instant the velocity of a particle moving under a conservative system of forces be reversed, prove that the particle will describe its former path in the reverse order.

A perfectly elastic particle describing an ellipse under the influence of a force in a focus, impinges at an apse on a plane inclined at an angle ϕ to the direction of motion. Find the subsequent path described by the particle.

IV. A heavy particle moves on a smooth surface of revolution whose axis is vertical; show how to determine the motion.

If the surface be a sphere, and the particle be so projected as to describe a path differing very little from a horizontal circle, prove that the time of a small vertical oscillation is
$$\pi\sqrt{\frac{r\cos\alpha}{g(1 + 3\cos^2\alpha)}},$$

where r is the radius of the sphere, and a the inclination to the vertical of the radius through the mean position of the particle.

V. Show that any system of forces may be reduced to a single force and a couple, the direction of whose axis coincides with the direction of the force. A system of forces, whose resultant is R and least principal moment G, is reduced to another, whose couple is G′ and whose resultant R meets a fixed plane perpendicular to the central axis in O′. Show that, for a given value of G′, a line through O′ parallel to the axis of G′ describes an hyperboloid.

VI. Define the term centroid. Obtain polar formulæ for finding the centroid of (1) an arc of a plane curve, (2) a solid body. Find the centroid of a loop of the curve $r = a \cos n\theta$.

VII. Form the equations of equilibrium of a flexible inelastic string stretched over a smooth surface. A heavy, endless, inelastic string lies over a smooth cylinder whose axis is horizontal, the length of the string being equal to the circumstances of the cylinder. Find the tension at any point.

VIII Find the attraction of a homogeneous sphere on an external particle. A sphere of attracting matter is divided into two parts by a spherical surface passing through its centre, and at the point on this surface furthest from the sphere a particle is placed. Show that the attractions of the two parts of the sphere on this particle are equal.

THURSDAY, 22ND JANUARY, 2 TO 5 P.M.

DYNAMICS.

I. A body is moving in any given manner in one plane. Find the position in the body of that point (1) which has no velocity (2) which has no acceleration.

If these two points be called I and J, shew that the direction of J's velocity is perpendicular to IJ, and that the direction of I's acceleration is inclined to IJ at angle $\tan^{-1}\omega/\omega^2$, where ω is the angular velocity of the body.

II. Define the moment of inertia of a body about any line, and the principal axes at any point; and prove that the principal axes at any point of a plane figure are those about which the moment of inertia is a maximum or a minimum.

A and B are the principal moments of inertia at the centre of gravity of a body of mass M. If the principal axes at that point be taken as axes of co-ordinates, shew that the angle ϕ which a principal axis at the point xy makes with the axis of x is given by

$$\tan 2\phi = 2Mxy/[B + Mx^2 - (A + My^2)].$$

III. Prove by the aid of Newton's laws of motion (1) that the rate of change of momentum per unit of time of a system of bodies in any given direction is the sum of the acting forces in that direction; (2) that the rate of change of angular momentum about any axis fixed in space is equal to the sum of moments of the acting forces about that line.

A rough sphere is placed on the inclined face of a wedge which is free to slide on a smooth horizontal plane Determine the

motion, and prove that, if M and a be the mass and radius of the sphere, m the mass of the wedge, and α the angle of inclination of its face, the angular acceleration of the sphere is

$$\frac{g}{a}\sin\alpha.\frac{5(M+m)}{(2+5\sin^2\alpha)M+7m}.$$

IV. A system of bodies is moving in one plane under a system of conservative forces Prove from the equations of motion that the sum of the potential and kinetic energies is constant.

The ends of a heavy uniform rod of length $2a$ are free to slide in two smooth grooves in a vertical plane, one being horizontal and the other vertical. Investigate the motion of the rod, and shew that if it starts from rest when nearly vertical, its angular velocity when it is horizontal is $\sqrt{\frac{3g}{2a}}$.

V. Show how to determine the initial actions between the parts of a system of bodies when one or more of the supports which keep the system in equilibrium gives way.

AB, BC, CD are three equal uniform rods, hinged together at B and C, and free to turn about the end A which is fixed. The rods are held so that BC is vertical and AB and CD horizontal, CD being the lower; prove that when the rods are let go, the stresses at A, B, and C are vertical, and find their values. Find also the initial angular accelerations of the rods.

VI. Adapt Lagrange's equations of motion to the case of a system oscillating about a position of equilibrium.

A fine circular ring of radius r hangs at rest in a vertical plane over two smooth fine parallel wires distant $2b$ apart in a horizontal plane. If the ring be twisted about its vertical diameter through a small angle and then let go, prove that the time of a small oscillation is $2\pi\frac{r}{b}\frac{(r^2-b^2)^{\frac{1}{4}}}{(2g)^{\frac{1}{2}}}$

VII. A uniform rod AB of length $2a$ and radius of gyration k lies on a smooth horizontal table and one end A is made to move in a circle of radius r with uniform angular velocity ω about the centre. Prove that the angular motion of the rod relative to the radius through A is the same as that of a simple pendulum of length $g(k^2+a^2)/ar\omega^2$.

VIII. If the angular momenta of a system about rectangular axes which are moving to that their component angular velocities about themselves are θ_1, θ_2, and θ_3 be h_1, h_2, and h_3, show that the rates of change of angular momenta about these axes are

$$\dot{h}_1-h_2\theta_3+h_3\theta_2,\ \dot{h}_2-h_3\theta_1+h_1\theta_3,\ \dot{h}_3-h_1\theta_2+h_2\theta_1.$$

IX. A sphere moves on a perfectly rough horizontal board which is made to rotate about a vertical axis with constant angular velocity n. Show that the motion of the centre of the sphere is given by the equations $r\ddot{\theta}+2\dot{r}\dot{\theta}=\frac{2}{7}\dot{r}n$, $\ddot{r}-r\dot{\theta}^2+\frac{2}{7}r\dot{\theta}n=0$, where r and θ

are the cylindrical coordinates of the centre with respect to the axis of rotation.

Show that the centre describes in space a circle with uniform velocity.

FRIDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

HYDROSTATICS, HYDRODYNAMICS, AND OPTICS

Full marks will be awarded for answering correctly about two-thirds of the paper.

I. If a fluid in equilibrium be elastic and of variable temparature, find the differential equations of the curves of equal pressure and temparature.

A straight rod, every particle of which attracts with a force varying inversely as the square of the distance, is surrounded by a mass of homogeneous incompressible fiuid. Find the form of the surfaces of equal pressure.

II. The density of a liquid, contained in a cylindrical vessel, varies as the depth; it is transferred to another vessel, in which the density varies as the square of the depth. Find the shape of the new vessel assuming its form to be that of a surface of revolution.

III. Find the resultant pressure on any surface of a fluid at rest under the action of any given forces.

A hollow sphere is full of liquid, the density of which varies as the square of the depth. Shew that the whole pressure on the surface of the sphere : the resultant pressure :: 5 : 3.

IV. A solid, floating at rest in a homogeneous liquid, is made to turn through a very small angle in a given vertical plane. Determine whether the fluids pressure will tend to restore it to its original position or not.

An isosceles triangular lamina ABC floats with its base AB horizontal, and above the surface, in a liquid the density of which varies as the depth. If h be the depth of C below the surface, show that the height of the metacentre above C is $\frac{1}{4}h \sec^3 \frac{C}{2}$

V. A flexible surface of any form is exposed to the action of a fluid. Find the relation between the pressure, principal tensions, and the curvatures in the directions of these tensions, at any point.

A hollow cone, the vertex of which is downwards, is filled with water. Find where the horizontal tension is greatest.

VI. 1. Give the Eulerian forms of the equations of motion and of continuity.

2 Define steady motion. Find the time in which a given quantity of fluid will flow through a small orifice.

3. A right cone is filled with fluid and placed with a generating line horizontal, and uppermost, and a small orifice is made at the lowest point. Find the time in which it will be emptied.

VII. A quantity of liquid moves in a straight tube of small bore under the action of a force to a point in the tube, which is proportional

to the distance from that point. Find the pressure at any distance x.

VIII. 1. Find the expression for the ratio of the linear magnitudes of the object and its image in terms of the divergence of the rays before and after refraction at a spherical surface bounding two different media.

2. Define the nodal points of a lens, and shew what property belongs to them.

IX. 1. Show that any sytem of rays originally normal to a surface will always retain the property of being normal to a surface after any number of reflexions or refractions.

2. Rays parallel to the axis of y are incident on the reflecting curve $y=ex$. Shew that the equation to the caustic is the catenary $y=\frac{1}{2}\{e^{x+1}+e^{-(x+1)}\}$.

X. A pencil of parallel rays is refracted directly through two thin lenses, on the same axis, separated by a given interval. Find the condition of achromatism.

XI. 1. Explain the construction of Huyghens' eye-piece, and shew that it possesses the advantage of being achromatic.

2 Shew that, if in Gregory's telescope the focal length of the small mirror and of the eye-piece be each 2 inches, and the distance between the foci of the large mirror and of eye-piece be 32 inches, and the telescope be adjusted so so that rays from a distant point emerge in a state of parallelism, then the alteration needed for a person who can see best at a distance of 26 inches will be a motion of the small mirror of approximately ·0005 of an inch.

XII. 1. State briefly the explanation given of the phenomena known as *mirage*.

2. A ray passes through a medium of variable density whose refractive index μ varies as y^{-n}. Show that the intrinsic equation to the path of the ray is $\frac{ds}{d\phi}=k\cos\frac{n-1}{n}\phi$

Friday, 23rd January, 2 to 5 p.m.

ASTRONOMY.

I. Describe the transit circle, and state the conditions which a transit circle in perfect adjustment must satisfy Show how to determine the deviation error from transits of two known stars.

II. Given the right ascension and the declination of a star, show how to find its latitude and longitude.

If α, δ, λ, l be respectively the right ascension, declination, latitude, and longitude of a star, ω the obliquity of the ecliptic prove that $\sin\lambda\tan l+\sin\delta\tan\alpha=\cos\omega\,(\sin\lambda\tan\alpha+\sin\delta\tan l)$.

III. Show how to determine the obliquity of the ecliptic from observations of the right ascension and declination of the sun near one of the solstices.

Prove that the equation of time due to the obliquity of the ecliptic is given by the equation $2\cot\varpi\sin^2\frac{1}{2}\omega=\cot l+\tan\alpha$, where l is the longitude of the sun and α its right ascension.

Hence show that this is a maximum when the sun's longitude is the complement of its right ascension.

IV. Show how to calculate the error of the sidereal clock from the observed altitude of a known star.

Having given that the sidereal time at Greenwich on a given day is $12^h\ 28^m\ 46^s.9$, and that the retardation of mean on sidereal time in 24 hours is $3^m\ 55^s.9$, find what time will be indicated by a mean time clock on that day when a star whose R.A. is $19^h27^m13^s.9$ comes on the meridian of Madras, in longitude $5^h\ 20^m\ 57^s.0$ E.

V. Given the times at which two known stars attain the same altitude, show how to calculate the latitude.

What information regarding the position of an observer on the earth's surface is to be gained from an observation of a single altitude of a known star?

VI. Prove that the aberration curve of a star is an ellipse.

Find the aberration of a star in right ascension and declination; and prove that the maximum value of the aberration in R.A. is $k \sec \delta \sqrt{1 - \cos^2 \alpha \sin^2 \omega}$.

VII Show how to find whether a lunar eclipse will occur near a given opposition of the sun and the moon; and explain generally how the time, duration, and magnitude of a lunar eclipse are determined.

VIII. Describe the apparent motion of an inferior planet during a synodic revolution. Determine the position of the stationary point.

A transit of Venus occurred on December 8, 1874, and another on December 6, 1882; and the next will take place on June 7, 2004. Explain this.

IX. (1) State the elements of a comet's orbit. (2) How many observations are necessary in order to determine these elements? (3) How would you distinguish a comet from a planet or a nebula? (4) How would you determine whether a comet under observation is one which has been previously observed?

SATURDAY, 24TH JANUARY, 10 A.M. TO 1 P.M.

ADDITIONAL PAPER ON MIXED MATHEMATICS.

I. State the laws of limiting friction.

A heavy particle is placed on a rough surface whose equation is $f(x, y, z) = 0$, the direction-cosines of the vertical being (l, m, n). Show that the possible positions of equilibrium are separated from the rest of the surface by the curve in which the given surface is met by the surface

$$\left(m\frac{df}{dz} - n\frac{df}{dy}\right)^2 + \left(n\frac{df}{dx} - l\frac{df}{dz}\right)^2 + \left(l\frac{df}{dy} - m\frac{df}{dx}\right)^2 =$$

$$\mu^2\left(l\frac{df}{dx} + m\frac{df}{dy} + n\frac{df}{dz}\right)^2$$

II. Find the condition that a system of forces may be reducible to a single resultant force.

Three forces act along three fixed non-intersecting lines, and vary in magnitude in any way consistent with the condition of having a single resultant. Show that a line drawn through a fixed point parallel to their resultant will generate a cone of the second order.

III. Find the attraction of a uniform rod on any external point. Show that the resultant attraction at any point P varies as $\frac{SH}{SP+HP}\cdot\frac{1}{PG}$, where S and H are the ends of the rod, and G the point where the bisector of the angle SPH meets SH.

IV. Prove that the attraction of a closed indefinitely thin shell bounded by two concentric similar and similarly situated ellipsoids upon a point in its interior is zero.

If such a shell be cut in two by a principal plane, and a particle be placed on the plane, prove that the resultant attraction of the semi-ellipsoidal shell is perpendicular to the plane.

V. Define a hodograph and prove that if a catenary be described under the action of a force parallel to its axis, the hodograph is a straight line described with velocity proportional to that in the catenary.

VI. A particle moves in a resisting medium under a central attraction; find the differential equation of the path described.

A particle describes a curve under a constant acceleration which makes a constant angle with the tangent to the path; the motion takes place in a medium resisting as the nth power of the velocity. Show that the hodograph of the curve described is of the form $b^n - e^{-n\theta \cot a} = r^{-n} - a^{-n}$

VII. Prove Lambert's theorem, viz., that if in a parabolic orbit described under a force to the focus r_1, r_2 be the lengths of the radii vectores, and c that of the chord joining their extremities, then the time of describing the included arc is

$$\frac{1}{6\sqrt{\mu}}\{(r_1+r_2+c)^{\frac{3}{2}} \mp (r_1+r_2-c)^{\frac{3}{2}}\}$$

Distinguish between the signs of the radical.

VIII. Prove Euler's equations for the motion of a rigid body about a fixed point, viz:—$A\frac{d\omega_1}{dt} - (B-C)\,\omega_2\,\omega_3 = L$. and two similar equations.

Discuss fully the motion in the case when $L=M=N=O$, $B=C$.

IX. A uniform and perfectly flexible chain lies in a given curve along a smooth horizontal plane. A given impulsive tension is applied at one end in the direction of the tangent at that end: find a equation giving the impulsive tension at any other point of the chain.

Integrate the equation in the case when the chain lies in the form of an arc of an equiangular spiral.

X. Prove the following equation of fluid motion

$$\frac{1}{\rho}dp = dR - d\frac{d\phi}{dt} - \frac{1}{2}d(v^2)$$

and deduce the expression $v^2 = \frac{g\lambda}{2\pi}\frac{e^{\frac{2\pi h}{\lambda}} - e^{-\frac{2\pi h}{\lambda}}}{e^{\frac{2\pi h}{\lambda}} + e^{-\frac{2\pi h}{\lambda}}}$ for the velocity of parallel straight waves of length λ in a sea of depth h, stating the assumptions that are made. What does v become (1) in the case of very long waves, (2) in the case of waves on a very deep sea.

XI. A ray of light falls on a prism in a plane making an angle γ with the principal plane Show how to determine the direction of the emergent ray, and prove that the angle between the incident ray and the principal plane is equal to that between the same plane and the emergent ray.

Prove that if $\gamma = \frac{\pi}{2}$, the emergent ray is parallel to a generator of the cone $\sin^2\iota(\mu^2r^2 - x^2) = y^2$, where $r^2 = x^2 + y^2 + z^2$, and a normal to the face of emergence is the axis of z, and the principal plane the plane of yz.

XII. Explain the reflexion and refraction of light on the undulatory theory, and account for the phenomenon of total internal reflexion.

Saturday, 24th January, 2 to 5 p.m.

PROBLEMS IN MIXED MATHEMATICS.

I. Forces P,Q, and R act along the edges OA, OB, and OC of a tetrahedron. Shew that the resultant is $\left(\frac{P}{DA} + \frac{Q}{DB} + \frac{R}{DC}\right)DG$, where G is a certain point in ABC, and that it acts along DG.

II. A particle of unit mass is acted on by a system of forces of which the components at a point $(x\text{-}y)$ parallel to the axes are X and Y.

Find the conditions that the particle may rest in stable equilibrium at the point a, b; and shew that the period of small oscillations about that position is π/p where

$$p^4 + p^2\left(\frac{dX}{da} + \frac{dY}{db}\right) + \frac{dX}{da}\cdot\frac{dY}{db} - \frac{dX}{db}\cdot\frac{dY}{da} = 0$$

III. An infinite straight line occupying the positive part of the axis of z attracts according to the law of nature. Show from elementary considerations that its potential is a function of $\sqrt{x^2+y^2+z^2} - z$, and hence prove that the potential is $c\log(\sqrt{x^2+y^2+z^2} - z) + c'$, where c and c' are constants.

IV. A shot is fired in an atmosphere which the resistance varies as the cube of the velocity. If f be the retardation when the shot

is ascending at an inclination α to the horizon, f_0 when it is moving horizontally, and f_1 when it is descending at an inclination α, show that

$$\frac{1}{f_1}+\frac{1}{f}=\frac{2\cos^4\alpha}{f_0},$$

$$\frac{1}{f_1}-\frac{1}{f}=\frac{2\sin\alpha(3-2\sin^2\alpha)}{g}$$

V. If P be the perimeter of a closed curve described about a centre of force, T the time of a revolution, h twice the area described in a unit of time, and ρ the radius of curvature at time t, show that $P=h\int_0^T\frac{dt}{\rho}$

VI. An endless inelastic string of uniform density is placed in a smooth tube in the form of a closed curve without singularities, and is acted on by a field of force such that unit mass experiences a force μr perpendicular to the radius vector. Show that the string will complete one revolution from rest in time $\frac{l}{\mu\sqrt{\Delta}}$ where l and Δ are the length and area of the curve.

VII. If α be the sun's altitude and if $\sin\frac{\alpha}{2}$ be greater than $\frac{1}{\mu^2}\left(\frac{4-\mu^2}{3}\right)^{\frac{3}{2}}$, prove that the primary rainbow will not be visible.

VIII. A horizontal dial is placed so that the vertical plane through its style and substyle is not in the meridian but turned through a small angle α to the east. Shew that, at h hours after noon the error in the time indicated is $\frac{\alpha}{15}(\cos l\cos h\cot\Delta-\sin l)$, Δ being the sun's north polar distance, and l the latitude of the place.

IX. Find the pressure at the centre of the earth supposed a sphere of uniform fluid of mean density 5·5 referred to water, it being given that the earth's radius is 4,000 miles and that the value of g at the surface is 32.

X. A liquid is at rest under the action of given forces: if a small portion in the form of a rectangular parallelepiped becomes solid and remains under the action of the same forces when the surrounding liquid is removed, prove that there will be initial angular acceleration, the component of which about the axis of x will be $\frac{1}{\rho}\frac{d(\rho Z)}{dy}\frac{C-B}{A}$; A, B, and C being the moments of inertia about the axes X,Y,Z the component forces per unit mass at the point (x,y,z), and the axes being drawn through the centre of the parallelepiped parallel to its edges.

BRANCH II.A.

MONDAY, 19TH JANUARY, 10 A.M. TO 1 P.M.

PHYSICS.

Introductory and Sound.

I. Describe the determination of the density of a soluble solid, such as sugar, by means of the volumometer.

II. Explain clearly how you would find the radius of a lens with a spherometer, and deduce the expression for the radius in terms of the fixed distance between the feet and the reading of the instrument.

III. Define modulus of torsion and modulus of rigidity, and explain clearly how to find the former by Maxwell's method of vibration.

IV Give a brief account of Plateau's cohesion experiments, stating the underlying principle, and giving particulars of the most important of his experiments.

V. It is often said that if the rate of the earth's rotation were increased seventeen fold, bodies at the equator would lose their weight. Show how this statement is arrived at.

VI. Describe some form of gyroscope, and discuss in a general way its theory and what it may be used to demonstrate.

VII. In what way does the width of a resonance tube affect the length of it which will resound to a given tone?

VIII. Given the velocity of sound in water to be 1400 metres per second, deduce the coefficient of elasticity of water.

IX. (1) What is the system of equal temperament in music? How do the notes of an equally tempered scale agree with those of the ordinary diatonic scale? (2) Show how the Pythagorean musical scale may be evolved, and point out how and in what intervals it differs from the ordinary scale.

X. What will be the fundamental note given out by a brass wire one metre long stretched with a weight of 80 kilogrammes, if it weigh $\frac{1}{10}$ gramme per centimetre?

MONDAY, 19TH JANUARY, 2 TO 5 P.M.

PHYSICS.

Heat and Light.

I. State the second law of thermodynamics. Sketch Carnot's contributions to this subject, pointing out clearly the importance of his 'cycle,' and showing how they lead to an absolute measure of temperature.

II Describe Angström's method of measuring heat conductivity, and apply it to the case of the conductivity of the earth as deduced from observations on underground temperatures.

III. Give a *resumé* of the present state of our knowledge concerning the effect of temperature and pressure on gases.

IV. Give some account of the leading experiments on the transmission of radiation through screens of different substances and

different thicknesses Describe *either* Boy's radio-micrometer *or* Langley's bolometer.

V. Assuming that the energy of a cyclone is supplied by the condensation of vapour into rain, show by actual calculation that a rainfall of 2 inches per hour over the storm area is amply sufficient to account for all the observed phenomena.

VI. Describe Foucault's method of determining the velocity of light, and investigate the formula used for reducing the results of the observations.

VII What is meant by chromatic aberration? How can it be corrected, and to what extent is the correction complete? How should a lens intended for photographic purposes differ from one intended simply for eye observations?

VIII. Give some account of Clerk-Maxwell's investigations on colours, and describe the apparatus which he used.

IX. Explain clearly the principles involved in the arrangements used for viewing solar prominences in full sunlight, and give some account of the results of the observations thus made.

X. Explain the phenomena exhibited when a ray of polarized light is passed through a doubly-refracting crystal and then through an analyser, (1) when the crystal is cut paralleled to the axis, (2) when it is cut perpendicular to the axis.

TUESDAY, 20TH JANUARY, 10 A.M. TO 1 P.M.

PHYSICS.

Magnetism and Electricity.

I. Describe one method of determining the value of the earth's horizontal magnetic force, forming the necessary equations for calculating the value in absolute units.

II. Describe the construction of one of the modern forms of influence electric machine, and explain its action.

III. What is the nature of the discharge of a Leyden jar? How can it be affected (1) by increasing the capacity, (2) by increasing the self induction? Give some idea of the order of magnitude of the quantities involved.

IV. What is the relation between electricity and light? Give a summary of the evidence in support of your conclusion.

V. Assuming the formula $H = 0{\cdot}0315\ A^2Rt$, where the unit of heat is that required to raise the temperature of 1lb. of water from 0° C. to 1° C., and A is measured in ampères, find the total amount of heat generated in a circuit when a current of 5 ampères flows through it for one hour with a potential difference of 150 volts between the terminals.

VI. Explain clearly what is meant by self-induction, and describe one method by which it can be measured. How does it affect the conductivity of a rod for rapidly varying currents?

VII. Describe a method for determining the scale-value of a tangent galvanometer

VIII. Discuss the transmission of a series of signals through a long telegraph cable.

IX. Explain the construction of a thermo-electric diagram, and show that it contains full information as to the sources of the energy of the current.

X A shunt-wound dynamo machine is used for lighting 200 lamps (each having a resistance, when hot, of 100 ohms) arranged in groups of two lamps in series, and the groups in multiple arc. The resistance of the armature is 0·009 ohms, that of the shunt coils 16 ohms, and the difference of potential 115 volts. How much current in ampères, will flow through the circuit, and what change will be produced by disconnecting 10 of the groups?

WEDNESDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

PHYSICS.

Practical Examination.

I. Find the value of g by means of a simple pendulum.

II. With the help of the given tuning forks find the vibration numbers for the four given organ pipes.

III. With the given grating find the wave length of b_1 in the solar spectrum.

WEDNESDAY, 21ST JANUARY, 2 TO 5 P.M.

PHYSICS.

Practical Examination

I. Determine the dew-point directly by means of the apparatus given you, and compare the value of the tension of the aqueous vapour of the air thus obtained with that calculated from the readings of the wet and dry bulb thermometers.

II. Investigate the distribution of magnetism in the bar given you.

III. Adjust the differential galvanometer given you by means of its own indications, both for equality of electro-magnetic effect, and for the equality of the resistance of the two coils; then measure the resistance of the apparatus given you by means of this galvanometer. (Resistance-coils and a battery are provided.)

THURSDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

CHEMISTRY.

I. Who was the first to explain clearly the chemical nature of the atmosphere, as far as its main constituents are concerned, and what experiments did he make in support of his explanation? What important previous discoveries and researches had been made which were of great assistance to the explainer of the chemical nature of the atmosphere? Give a full account of our modern knowledge of this subject.

II. The burning of wood, the calcination of lead, and the slaking of quicklime are processes which agree in two fundamental respects.

Show how this statement can be proved experimentally. What views prevailed during the greater part of the last century with regard to the above processes?

III. How does the molecular theory of gases account for (1) the simple relations existing between the volumes of the gases formed or destroyed in chemical changes, (2) the effect of a change of temperature upon the pressure of a gas, (3) the law of diffusion?

IV. State fully the reasons for taking 32 as the atomic weight of sulphur. What was the old atomic weight of this element, and why was it taken? If the old numbers were taken, what would be the formulæ of sulphuretted hydrogen, calcium sulphide, and iron pyrites?

V. State the laws of Henry and Dalton with regard to the absorption of gases by water. Can the relation between the amount of gas absorbed and the temperature be expressed in the form of a simple law? Describe a method for separating the atmospheric oxygen from the nitrogen by the action of water, and explain the principle of the method. Calculate the percentage of oxygen in the air dissolved by water when exposed to the atmosphere at 0°C. and 760 mm. pressure.

[The coefficients of absorption of nitrogen and oxygen are ·02 and ·04, respectively, at the standard temperature and pressure.]

VI. Describe experiments by which (1) oxygen can be liberated from a compound by means of chlorine, and (2) chlorine can be liberated from a compound by means of oxygen. Mention any important manufacturing processes that depend upon the above reactions. Is any element known which is more electro-negative than chlorine or oxygen? If so, name the element, and mention the reactions which prove its more powerful electro-negative nature.

VII. Describe how you would determine the quantity of (1) free sulphuric acid in a partially neutralised solution, and (2) the sulphuric acid radicle in the solution of a soluble sulphate.

Why is it necessary to estimate soluble nitrates in a manner fundamentally different from that employed for estimating soluble sulphates or chlorides?

VIII. Compare the principal physical and chemical properties of the phosphorus group of elements. What rare element was discovered by Roscoe to be closely related to this group, and how did he establish the relationship?

THURSDAY, 22ND JANUARY, 2 TO 5 P.M.

CHEMISTRY.

I. Give an account of the principal methods employed in determining molecular weights, and mention any important advance which has recently been made in this direction.

II. 0·5 gram of a substance yielded on analysis 36c.cm. of nitrogen, measured over water at 15° C., under a pressure of 684 mm. Calculate the percentage of nitrogen in the substance.

(Pressure of aqueous vapour at 15° C = 12·7 mm.)

III. 2 grams of a mixture of the carbonates of barium and calcium

evolve 0·67 gram of carbon di-oxide when treated with sulphuric acid. Calculate the percentage of each carbonate in the mixture.

IV. What were the earlier views regarding the nature and constitution of chlorine and of hydrochloric acid and its salts? Show that these views were consistent with the chemical theories of the period.

V. Mention the different formulæ which have been given to the oxides and oxyacids of the halogens. What is the evidence in support of each? Write the graphic formulæ of the acids from which the following salts may be regarded as derived:—KIO_4, Na_5IO_6, Ag_3IO_5, $Ag_4I_2O_9$, $Zn_4I_2O_{11}$.

VI. Describe the chemical changes which take place in the following circumstances:—(1) when hydrogen sulphide is passed into a dilute hydrochloric acid solution of antimony chloride, and when antimony sulphide is heated with concentrated hydrochloric acid; (2) when steam is passed over heated iron, and when hydrogen is passed over heated iron oxide. How do you account for the changes taking place in each case?

VII. How does iodine react with a solution of sodium thiosulphate? Give examples of the use which is made of this reaction in analysis.

VIII. Mention the chief compounds of silver which occur in nature, and describe the various processes by which the metal is separated from the elements with which it is associated. What resemblance does silver bear (1) to copper, and (2) to the alkali metals?

IX. Aluminium was formerly considered to be a tetrad, but many chemists now regard it as a trivalent element. What evidence is there in support of each view?

X. Describe the chemical changes which take place when (1) an electric current is passed between two lead plates coated with lead sulphate and immersed in dilute sulphuric acid, and (2) when the current is interrupted and the plates connected by a metallic conductor.

Friday, 23rd January, 10 A.M. to 1 P.M.

MIXED MATHEMATICS.

Statics and Hydrostatics.

I. 1. Show that any system of forces not in equilibrium acting in one plane on a body may be reduced to either a single force or a single couple in the plane of the forces.

2. Two equal rods AB, AC, each weighing 36 lb., and 10 feet in length, stand on a horizontal plane BC. They are connected by a rope DE 5 feet long fixed at points D, E, such that $AD = AE = 6\frac{1}{2}$ feet. A weight of 72 lb. is fixed on one of the rods at a distance of 8 feet from its foot. Find the tension of the rope DE.

II. 1. Find the co-ordinates of the centre of any number of parallel forces acting not in one plane on a body; and find the conditions of equilibrium.

2. If a pyramid 12 inches high have a piece cut off by a plane parallel to its base, and at a distance of one-fourth of its

height from the vertex, find the distance of the centre of gravity of the frustrum from the base.

III. 1. Find the conditions of equilibrium of any number of forces acting not in one plane on a rigid body fixed (*a*) at one point, (*b*) at two points.

2. $ABCD$ is a quadrilateral; forces acting along, AB, BC, CD, DA are represented by l, m, n, r times those sides respectively. Show that for equilibrium $ln = mr$; also that

$$\triangle ABD : \triangle ABC = l(n-m) : r(m-l).$$

IV. 1. Define virtual velocity; and prove the truth of the principle of virtual velocities in the case of the lever.

2. Two weights, joined by a string passing over a pully, rest on two smooth inclined planes of the same height and whose highest points meet at the pully. Apply the principle of virtual velocities to show that the weights are as the lengths of the planes, and that however they may be displaced their centre of gravity moves horizontally.

V. $ABCD$ is a uniform quadrilateral having $AB = AD = AC$, angle $BAC = 30°$, and angle $CAD = 60°$. If a weight $= \frac{1}{8}\triangle ABC$ be attached to the point B, and the whole rest suspended from A, prove that the diagonal AC will be vertical.

VI. A heavy chain rests on two rough inclined planes, and passes over a smooth pully at the common vertex. Show that when the chain is on the point of motion, the line joining its ends is inclined to the horizon at the angle of friction.

VII. 1. Show how to find the whole pressure and the resultant pressure on any surface immersed in a liquid.

2. If a cone, vertex down and filled with liquid, be divided into four equal parts by two planes through the axis at right angles to each other, find the resultant pressure on each quarter of the curved surface.

VIII. 1. Find a general expression for the depth of the centre of pressure of a liquid on any surface.

2. Determine the centre of pressure in the case of a triangular plate immersed vertically, vertex down, with its base at a depth h parallel to the surface of the liquid.

IX. A cylinder floats in a liquid, with a string attached to the centre of its upper end passing over a fixed pully and bearing a weight. If the depths of the lower end of the cylinder are x, y, z, when the weights are P, Q, R, respectively, show that $P(y-z) + Q(z-x) + R(x-y) = 0$.

X. A cylindrical diving bell, 6 feet diameter and 10 feet high is sunk to such a depth that the water has risen $\frac{1}{4}$th of its height. Find the number of cubic feet of air at ordinary pressure, the water barometer being at 33 feet, that must be pumped into the bell per second in order that the water may be prevented from rising higher and yet allow the bell to descend at the rate of 7 feet per second.

XI. A hollow cone, of vertical angle 2θ, is filled with water and placed on a horizontal table. Find at what distance from the ver-

tex a small orifice must be made in its side so that the issuing liquid may just strike the bottom of the cone.

XII. The mean section of a stream is 4 feet by 2 feet, its mean velocity 40 feet per minute, it has a fall of 17½ feet; it is required to raise water by means of a water wheel whose efficiency is 0·7. To what height will it raise 196 cubic feet of water per minute?

FRIDAY, 23RD JANUARY, 2 TO 5 P.M.

MIXED MATHEMATICS.

Dynamics and Optics.

I. 1. Show that the path of a projectile in vacuo is a parabola; and find the focal distance and *latus rectum* of this parabola.

2. A projectile is discharged with velocity u_1 at an elevation a_1, and t seconds afterwards another is discharged after it so as to strike it. Prove that if u_2 and a_2 be the velocity and elevation of the second projectile $2u_1u_2 \sin(a_1 - a_2) = gt(u_1 \cos a_1 \times u_2 \cos a_2)$

II. 1. Prove that the central acceleration of a particle moving with angular velocity ω round the circumference of a circle of radius r is $\omega^2 r$.

2. If a train be moving at the rate of 60 miles an hour round a curve of ½ mile radius, on rails placed 5 feet apart, what rise of the outer rail will be needed to keep the train on the rails?

III. 1. Find the velocities after oblique impact of two elastic spheres of unequal mass.

2. Two balls A, B, of masses 8 oz. and 4 oz. are moving at right angles, with velocities 10 feet and 20 feet per second, respectively. If after impinging they subsequently move at right angles to one another, A making an angle θ with the line of impact, show that the coefficient of elasticity is $\dfrac{\tan\theta + 2}{2\tan\theta + 1}$

IV. 1. Define simple harmonic motion; and show that the apparent motion, to an eye placed in the same plane, of uniform circular motion of a particle is S. H. M.

2. Shew how to find geometrically the resultant of two S.H.M's at right angles to one another, whose amplitudes are as 1 : 2, whose periods are as 1 : 2, and whose phases differ by ¼ period of the quicker motion.

V. 1. Prove that the time of a complete oscillation of a single pendulum is $2\pi\sqrt{\dfrac{l}{g}}$.

2. If a seconds pendulum has its length shortened by ¼ inch, how many seconds will it lose per day?

VI. Define moment of inertia and radius of gyration. Prove that the moment of inertia of a system of heavy particles about a given axis is equal to their moment of inertia about a parallel axis through their centre of gravity, together with the product of their

mass into the square of the distance of their centre of gravity, from the given axis.

VII. 1. Show that when a ray of light is incident on a prism the deviation is a minimum when the angle of incidence is equal to the angle of emergence.

2. Show that if a glass prism of small refracting angle is immersed in water, the deviation of a ray through it is only $\frac{1}{2}$ of what it is in air.

VIII. 1. Prove that the power of lens varies as the sum of the curvatures of the two faces of the lens.

2 Find the focal length of a single lens equivalent to two convex lenses each of 1 inch focus, (*a*) at a distance of $\frac{1}{2}$ inch, and (*b*) close together.

IX. What is the optical combination known as Huyghens's eye-piece? Explain clearly its two advantages.

X. Find the conditions of achromatism of two prisms of angles a_1, a_2, of mean refractive index μ_1 and μ_2, and of dispersive power d_1 d_2, respectively.

XI. Describe the principle of Galileo's telescope, and find expressions for its magnifying power and for its field of view

Saturday, 24th January, 10 a.m. to 1 p.m.

SCIENTIFIC METHOD.

I. Write a short essay on the application of the theory of probabilities to scientific reasoning.

II. What is meant by indirect measurement? Give instances of its employment in sound, light, and electricity

III. In the method of means distinguish between (1) the fictitious mean or average result; (2) the precise mean result.

IV. Give some account of the following general methods of measurement, and give examples of their application:—(1) method of avoidance of errors; (2) method of compensation; (3) method of reversal.

Saturday, 24th January, 2 to 5 p.m.

SCIENTIFIC METHOD.

I. Write a short essay on experiment as distinguished from observation, giving particular attention to the following points:—(1) simplification of experiments by varying one condition at a time; (2) exclusion of indifferent circumstances; (3) removing or intensifying usual conditions

II. Describe and illustrate the requisites and uses of a good hypothesis.

III. What is meant by *residual phenomena*? To what causes may they be due? Give instances in which they have led to important discoveries.

IV. Give an account of some cases in which analogy has been a

guide to discovery. Show, in the theory of undulations, how analogy has sometimes aided and sometimes retarded the progress of scientific knowledge.

BRANCH IV.

MONDAY, 19TH JANUARY, 10 A.M. TO 1 P.M.

PSYCHOLOGY AND GENERAL PHILOSOPHY.

I. Trace in general outlines the development of the principal parts or centres of the human brain from the three embryonic divisions known as the anterior, middle, and posterior cerebral vesicles.

II. Compare the phrenological classification of mental powers into propensities, sentiments, and intellectual faculties, with the psychological classification into feeling, intellect and will.

Compare the methods pursued by Phrenologists on the one hand, and Physiologists and Psychologists on the other hand, in seeking to localize distinct functions in different parts of the brain.

Does modern physiological psychology lend any support to the phrenological doctrine according to which the propensities have their seat in the occipital and temporal regions of the brain, the sentiments in the lateral regions, and the intellectual faculties in the frontal region?

III. State and discuss the theory of Unconscious Cerebration.

What is the evidence, physiological and psychological, adduced in proof of the reality of unconscious cerebration? Discuss the views of Sir W. Hamilton on the subject.

IV. State and discuss what is known as Fechner's Law.

Distinguish between the intensive and extensive quantity of feeling. Exemplify Fechner's Law with reference to each of the two quantities. Is the Law applicable to emotions as well as to sensations and muscular feelings?

V. What are the main difficulties encountered in the attempt to classify the emotions, and how may they best be overcome?

Give an instance from the history of this part of Psychology of what you regard as an artificial classification of the emotions. Give also, with reasons, what you take to be a natural classification of them. How would an ethical classification of emotions differ from a psychological in (1) its aim, (2) its method, (3) its result?

VI. Looked at merely as a way of explaining the ordinary operations of intellect, have the laws of association any advantage over the popular mode of referring these operations to Imagination, Conception, etc.? Discuss the fundamental assumptions of the Associationist School. Does the principle of association satisfy all the requirements of the most advanced experientialism of the present day? What are its main defects in the opinion of Intuitionists?

VII. Is sensation possible without intellect? Discuss the question. Distinguish between sensation and preception. Criticize the views of Sir W. Hamilton on the distinction and discuss the use which he makes of the distinction in his treatment of the qualities of matter.

VIII. What contribution did Berkeley make to the theory of the visual perception of distance? How far are Berkeley's views borne out by observations made on persons born blind but who have obtained the use of their eyes after reaching maturity? Discuss the arguments for and against the immediate visual perception of extension.

IX. Knowledge, says Mr. Spencer, is relative because we can know only the relations between things. Is this statement true in point of fact? Whether true or not as a matter of fact, can it be accepted as a statement in whole or in part of the principle of the Relativity of Knowledge?

"The existence of that which is beyond phenomena is a necessary dictum alike of our thoughts and our words. We have no choice but to accept a formless consciousness of the inscrutable." Criticize this in the light of the principle of the Relativity of Knowledge.

MONDAY, 19TH JANUARY, 2 TO 5 P.M.

PSYCHOLOGY AND GENERAL PHILOSOPHY.

I Trace the various stages through which the mind passes or may pass before our desires result in action. How do you account for the wider belief in the doctrine of Free Will? Describe the position assumed on the question of Free Will by any one of the following:—Kant, Hobbes, J. S. Mill.

II. What exactly is the relation between Experientialism and Sensationalism? "There is a mental process," says J. S. Mill, "over and above the mere having of a feeling to which the word consciousness is sometimes, and it can hardly be said, improperly applied, *viz.*, the reference of the feeling to our self." The above statement has been adduced as something inconsistent with Mill's experientialism. Is the criticism valid?

III. Is the question of the Origin of Knowledge a psychological or a metaphysical question? What are the different meanings given to the word experience in modern times? "Though all our knowledge begins *with* experience, it does not all come *from* experience." Discuss this statement.

IV. State and discuss the various criteria that have been proposed for distinguishing valid intuitions. Discuss the distinction between Analytical and Synthetical propositions.

V Distinguish between Necessary and Contingent Truth.

"The characteristic of Necessity rightly understood, does not point to an innate origin." Critically examine this statement.

VI. What is the doctrine of the Relativity of Knowledge?

It has been said that Hamilton's doctrine of Relativity is inconsistent with his doctrine of Primary Qualities. How?

VII. By what marks are Percepts distinguished from Images? How is an Illusion distinguished from a Dream? What are the principal sources of the ideas making up dream experience? Account for the seeming reality, the exaggerated intensity and the coherence of dreams.

TUESDAY, 20TH JANUARY, 10 A.M. TO 1 P.M.

HISTORY OF PHILOSOPHY.

Sensationalism in France

I. Describe and discuss the main characteristics of French philosophy previous to the rise of the Sensationalist school.

II. What was the original source of French Sensationalism? What influences had been at work in France preparing the way for its reception and spread?

III. State, with reasons, (1) which of the French writers was the real founder of the Sensational school, (2) which of them was the most characteristic representative of the school, (3) in whose writings the doctrines of the school may be considered to have reached the culminating point of their development.

IV. Discuss (1) the fundamental assumption or assumptions with which the French Sensationalist school started, (2) the ultimate conclusions at which the school arrived, and (3) the philosophical methods employed by it in passing from premises to conclusion.

V. How did French Sensationalism develop itself on the ethical side, and who was its best known representative on this side? How do you explain the strong practical leaning of this school? Show in what respects the ethical system of the Sensationalist school was a logical development of the fundamental principles of sensationalist psychology, and in what respects it was the outcome of ideas, political, social, and religious, lying outside any particular philosophical school.

VI. To what extent are the charges of shallowness and levity brought against the French Sensational school borne out by facts?

If to any extent the charges are true, do you look upon these defects as inherent in any and every sensationalistic system, or as being, in whole or in part, due to the special circumstances amidst which the French school grew up?

VII. Ueberweg remarks that Condillac was a Sensationalist, but not a Materialist. Distinguish between Sensationalism and Materialism, and show whether Ueberweg's judgment on Condillac's system is correct. Mention (1) the two leading writers on the side of Materialism, (2) the works in which this doctrine was inculcated, and (3) any differences you are acquainted with between them in their mode of treating the subject.

VIII. What was the attitude of Montesquieu, Voltaire, Diderot, and Rousseau towards Sensationalism?

IX. What was the position of French Sensationalism at the close of the 18th century and during the first quarter of the present century? How did Cabanis and Destutt de Tracy stand related to this school? How much did Maine de Biran owe to the sensationalist school, how much to the Cartesianism which flowed through the 18th century as an undercurrent, and how much to the influence of British and German thinkers?

Tuesday, 20th January, 2 to 5 p.m.
PSYCHOLOGY.

Ferrier's *Institutes of Metaphysics.*

I. Compare critically the views of Professor Ferrier on the scope, function, and requisitions of Philosophy with those commonly held.

II. State and explain the three divisions of Philosophy as laid down in the Institutes, and show how they are mutually related to one another.

III. What are the two propositions upon which the system of Institutes is said to depend? Enunciate Ferrier's Canon of Philosophy and criticize it.

IV. How does Ferrier conceive the distinction between subject and object? Contrast his view with the distinction laid down by Bain or J. S. Mill.

V. Explain what is meant by "the unit or minimum of cognition." How is the proposition that Matter *per se* is absolutely unknowable established? Compare Kant's doctrine of the *Noumenon* with Ferrier's doctrine of Mind *per se* and Matter *per se.*

VI. 1. What objections does Ferrier raise against (*a*) the doctrine of Primary Qualities; (*b*) Natural Dualism; (*c*) Realism?

2. *Nihil est in intellectu quod non prius fuit in sensu.* Criticize the above proposition from the point of view of Ferrier.

Does the limitation of the proposition by Leibnitz's restriction—*nisi ipse intellectus,* obviate the objection from the standpoint of the author?

VII. "The ego or self or mind *per se* is of necessity absolutely unknowable." "Along with whatever any intelligence knows, it must, as the ground or condition of its knowledge, have some cognisance of *itself.*" Are the two propositions contradictory?

VIII. Give a brief statement of the essence of Berkeley's Idealism and compare it critically with the Idealism that is revealed in the Institutes of Metaphysics.

IX. State and criticize Ferrier's doctrine of Substance and Absolute Existence.

X. It has been urged against Ferrier's system "that it confounds the provinces of Logic and Metaphysics, and attempts to reach real existence, not by belief, but by formal demonstration." Is the criticism valid?

Wednesday, 21st January, 10 a.m. to 1 p.m.
LOGIC.

I. Critically examine the conflicting opinions concerning the province of Logic.

II. State the views of Hamilton and Mill respectively with regard to the nature and formation of concepts.

III "Propositions are not assertions respecting our ideas of

things, but assertions respecting the things themselves" (*Mill*). Enquire into the reasons for this statement, and determine how far it is compatible with the doctrine of reality which Mill elsewhere accepts.

IV. Discuss the validity of the distinction between mediate and immediate inference. Examine the various forms of immediate inference with a view to determine the precise nature of the process represented by each.

V Explain the nature of the syllogism as representing a real inference. Show how reasoning in natural science differs (1) from reasoning in mathematics, (2) from reasoning in law.

VI. State and examine Mill's theory of the origin of geometrical truth. Discuss the question whether 'the inconceivability of the opposite' can be accepted as a test of truth.

VII Examine in view of Mill's position on the subject the statement of Jevons that "agreement with fact is the sole and sufficient test of a true hypothesis"

VIII. Explain carefully the logical basis of the distinction between artificial and natural classifications. How is 'classification by series' related to natural classification?

IV. In what ways may Logic as the science of Proof be instrumental as an aid to Discovery?

THURSDAY, 22ND JANUARY 10 A.M. TO 1 P.M.

LOGIC.

Induction as conceived by Bacon, Newton, and Whewell.

I Bacon is often spoken of as having inaugurated the true method of physical science. But, says Dr. Whewell, "the aphorisms and phrases of the *Novum Organon* are far more frequently quoted by metaphysical, ethical and even theological writers, than they are by the authors of works on physics." What explanation can you give of this fact?

II What was Bacon's estimate of the syllogistic logic?

III. The first business of science, according to Bacon, is to enquire into 'forms of simple natures.' Explain what he means by the term 'form' and what by the expression 'simple nature.'

IV. "The induction which proceeds by simple enumeration," says Bacon, "is puerile, leads to uncertain conclusions and is exposed to danger from one contradictory instance." Explain what he means by induction by simple enumeration, and show how his own induction differs therefrom and why a single contradictory instance should be more fatal to the former than to the latter.

V. State briefly the procedure laid down by Bacon for the investigation of 'forms,' and compare it with Mill's experimental methods, pointing out the logical defects in the Baconian process of exclusion.

VI. What is Bacon's theory of the true order of progress in scientific discovery? Whereas Whewell regards the pointing out

of this process of gradual ascent as one of the most noticeable instances of Bacon's philosophical sagacity, Mill considers that Bacon was radically wrong in his doctrine respecting the order of discovery of these *axiomata media*. State and justify your view.

VII. What is the importance of Newton's Rules of Philosophising considered as a contribution to the development of the Logic of Induction?

VIII. Explain and criticise Newton's celebrated protest '*hypotheses non fingo*,' and show by reference to the subsequent history of science that his rule is needlessly stringent What are the points in issue between Whewell and Mill respecting the conditions of a legitimate hypothesis?

IX. The progress of science, says Whewell, consists in a perpetual reduction of Facts to Ideas. Explain his doctrine of the Fundamental Antithesis between Ideas and Facts and show by an example what he means by Idealization of Facts.

X. How does Whewell's conception of Induction differ from Mill's? Kepler's discovery of the ellipticity of Mars's orbit is regarded by Whewell as a case of Induction. How does Mill regard it and why does he refuse to term it an induction? Do you agree with Mill or Whewell?

XI. Referring to Bacon's Prerogative Instances, Herschel remarks: "It has always appeared to us, we must confess, that the help which the classification of instances under their different titles of prerogative, affords to inductions, however just such classification may be in itself, is yet more apparent than real. The force of the instance must be felt in the mind, before it can be referred to its place in the system; and before it can be referred or appreciated, it must be known; and when it *is* appreciated, we are ready enough to interweave it in our web of induction, without greatly troubling ourselves with enquiring whence it derives the weight we acknowledge it to have in our decisions .. No doubt such instances as these are highly instructive; but the difficulty in physics is to find such, not to perceive their force when found."

Comment on the above and show how far the remark may be applied to the experimental methods as given by Mill.

Thursday, 22nd January, 2 to 5 p.m.

LOGIC.

Bradley's *Principles of Logic.*

I State and explain (1) Bradley's view of the general nature of judgment, (2) his objections to the theories of judgment represented by Mill and Hamilton respectively.

II. What distinction does Bradley establish between categorical and hypothetical judgments? In what sense does he hold that all judgments may be regarded as at once categorical and hypothetical?

III. On what grounds does Bradley dissent (1) from the doctrine that proper names have no connotation, (2) from the doctrine that the extension and intension of concepts vary inversely?

IV. How does Bradley reach the conclusion that apodeictic modality does not strengthen assertion? Enquire whether this position is consistent with his analysis of the import of judgments.

V. Show how Bradley's theory of inference stands related to the syllogistic theory of inference on the one hand, and on the other to the theory of inference from particulars to particulars.

VI. Examine, from Bradley's standpoint, the validity of the claims that are advanced by J. S. Mill in behalf of the so-called Inductive Methods of Proof.

VII. Illustrate Bradley's conception of inference as consisting in a combined process of analysis and synthesis, (1) in the case of Comparison, (2) in the case of Abstraction.

VIII. In what sense does Bradley recognise the distinction between the form and the matter of reasoning? Explain in this connexion his statement that "the universal neither demonstrates, nor is demonstrated by, its particular applications."

IX. Distinguish the different questions that are involved in an enquiry into the validity of inference, and briefly indicate Bradley's position on each.

Friday, 23rd January, 10 a.m. to 1 p.m.

ETHICS.

I. "The main stream of English Ethics, so far as it flows independently of Revelational Theology, begins," says Sidgwick, "with Hobbes and the replies that Hobbes provoked." State briefly the main principles of Hobbism in their relation to Ethics and characterize the main reactionary systems provoked by his speculation.

II. How are the relative spheres of Law and Morality defined by (1) the Utilitarians and (2) the Intuitionists?

III. In what different forms may Egoism be held as an Ethical Theory? What is the psychological basis of Egoistic Hedonism? Examine the validity of this basis as a fact of psychology and the logical legitimacy of the transition from psychological to ethical hedonism. Discuss the question whether a rational system of rules of conduct is obtainable on the basis of Egoistic Hedonism.

IV. What different views have been held concerning the psychological character of the moral faculty—whether it is allied to Reason, Feeling, or Will? The Intuitionists contend for the irreducible character of the moral faculty. What ethical importance is supposed by them to attach to this view? How do those who regard this faculty as derivative account for the genesis of the feeling of moral obligation?

V. What are the questions dealt with under the head of 'applied ethics'? Is it necessary for working out a system of rules of conduct on the utilitarian basis that pleasures and pains should be commensurable?

VI. "The hypothesis that the moral sense is 'unconsciously utilitarian' accounts for the actual differences in different codes of

duty and estimates of virtue, either in the same age and country, or when we compare different ages and countries. This does not imply that perception of rightness has always been consciously derived from perception of utility; a view which the evidence of history fails to support." (*Sidgwick*). Support or controvert this view.

VII. While Kant holds that the freedom of the will is essential to the idea of morality, Leslie Stephen argues that it makes no difference whatever to our notion of morality whether the will is free or not. Discuss the point.

It is observed that utilitarian moralists have usually been Determinists How, then, do they account for moral responsibility?

VIII Discuss the question whether there can be any morality without God

Friday, 23rd January, 2 to 5 p.m.

HISTORY OF ETHICS.

Evolutional Ethics.

I. On what grounds does Mr. Spencer rest his contention that Morality is fundamentally a deductive science? Compare his method with the method of ordinary Utilitarianism, on the one hand, and with that of Intuitionalism, on the other.

II. What does Mr. Spencer mean when he says that Ethics has a physical, a biological, a psychological, and a sociological aspect? Viewed in any or all of these aspects, is the essential character of a moral action brought to light? Discuss the question.

III Admiting the fact of the inheritance of bodily characteristics, examine the evidence adduced in favour of the hereditary transmission of intellectual and moral faculties and capacities. What are supposed to be the intermediate links in the chain of causation connecting the intellectual and moral attributes of the child with those of the parent?

IV. What modification in conception or in mode of statement, or in both, must the Greatest Happiness principle undergo, if it be extended downwards and be taken as a principle of action holding good among the lower animals? Do these modifications affect the essential character of Utilitarianism or only its accidental features?

V. Is it indispensable to a system of evolutionary Ethics that utility in some form be accepted as the ethical end?

Compare and discuss the ethical end advocated by Darwin, Mr. Herbert Spencer, and Mr. Leslie Stephen respectively.

VI. Examine critically the process by which according to Darwin the social instincts of the lower animals gradually develop into moral sentiments. In passing from the lower animals to man what transformation, according to Darwin, does this moral sentiment undergo, and how is the transformation brought about?

Admitting for the sake of argument the existense of a moral sentiment among the lower animals, what do you regard as the most striking difference between the highest manifestations of the brute

conscience and the lowest forms of the human conscience? Is the difference such as can be satisfactorily accounted for on the principles of evolution?

VII Might one (an Intuitionist, for example,) admit in the fullest manner the gradual development of moral ideas and feelings from the earliest historical times to the present day, without thereby logically committing oneself to the evolutionary hypothesis of the development of a moral sentiment among the lower animals, and the hereditary transmission and strengthening of moral faculty and capacity among human beings? Discuss the question.

VIII. Discuss the ordinary experiential theory of a derivative conscience. What missing elements does Evolution profess to supply? Does the addition of these elements strengthen the experiential position, or does it, on the contrary, bring into prominence the essential soundness of the objections urged against it by the Intuitional school?

IX. How does the evolutionist explain the genesis of Remorse Does the explanation leave any residuum not accounted for?

Is obligation a merely transitory phase of morality or a permanent and essential feature of it? Discuss the views of evolutionary moralists such as Darwin, Mr. Spencer and Mr. Stephen.

X What are the views usually adopted by Intuitionists and Experientialists respectively regarding the coincidence of Duty and Happiness? Compare these with the views of Epicureans and Stoics, as representing ancient thought, and with those of Mr. Spencer and Mr Stephen, as representing modern evolutionism.

Saturday, 24th January, 10 a.m. to 1 p.m.

ETHICS.

Janet's *Theory of Morals.*

I. Explain Janet's theory of good as consisting in the identity of perfection and happiness. Show how he regards it as supplementing an inherent defect in the theory of pleasure on the one hand and in the theory of duty on the other.

II. Janet holds that good is anterior to duty, and that personal perfection constitutes the highest good for each individual. What basis is there in such a theory for the recognition of duty towards others?

III. Examine from the point of view of Janet the theory which identifies the good with the true. State the argument for the existence of God which Janet founds upon the conception of perfection as the ethical end.

IV. Show how Janet reconciles (1) his conception of duty as based upon prior good with the doctrine of a categorical imperative, (2) his conception of duty as absolute and universal with the fact that morality is progressive and that the moral law is not the same among all men.

V. How does Janet deal with the distinction which is found

both in religious and in secular morality, between actions that are obligatory, and actions which, though not obligatory, are nevertheless meritorious? In what sense does he recognize the distinction between definite and indefinite duties?

VI. State Janet's reasons for recognising, in opposition to Kant, a class of duties towards the lower animals and a class of duties towards God. On what grounds does he oppose the theory that all our duties are duties towards God?

VII. Janet accepts the principle that the intention makes the morality of the act; and at the same time refuses to admit the principle that the end justifies the means. What distinction does he draw between the two principles, so that while accepting the one he can reject the other?

VIII Distinguish, with Janet, between liberty as an *end* and liberty as a *means*. Explain his theory of liberty as rational determinism; and show how he meets the objection that the will always follows the greatest good

IX Define, according to Janet's principles, the ideas of merit and demerit How does Janet distinguish a moral sanction from a legal sanction, and what conception is he consequently led to entertain of immortality as a postulate of morality?

BRANCH V

Monday, 19th January, 10 a.m. to 1 p.m.

ANCIENT HISTORY.

Phœnician Colonisation and Commerce.

I. Describe the conditions which led the Phœnicians to colonise. Define the Phœnician sphere of influence at its widest extent, also the range of actual settlements.

II. In what products did the natural wealth of Phœnicia consist? Mention the principal Phœnician manufactures, stating whence the raw materials were derived

III. Give the sources from which and the processes by which the Phœnicians obtained their "purple." What colours did it yield? Mention any other dye used

IV Compare the trading and colonising enterprises of Tyre with those of Sidon

V. At what date was Carthage founded? State the circumstances in which this settlement was made, and show their bearing on the exceptional character of Carthage considered as a Phœnician colony.

VI. Give an account of the commercial relations which subsisted between the Phœnicians and the Israelites in the days of Hiram and Solomon. Mention the articles of merchandise which the 'navy of Tarshish' brought to Palestine, and refer them to their respective countries whence derived. Discuss the situation of Ophir, and give its exports.

VII. With what principal countries did the Phœnicians carry on

trade by land? Trace the ordinary route of commerce from Egypt to Assyria. Mention any notice of traffic in slaves.

VIII. What products did the following countries furnish to Phœnician traders:—Egypt, Babylonia and Assyria, Cyprus, Greece, Cilicia, the Cassiterides, West Africa?

IX. How was the prosperity of Phœnicia affected by the Assyrian, Egyptian, Persian, Lagid, and Seleucid supremacies?

X. Compare (1) the colonial enterprise of the Phœnicians with that of the Greeks, as regards method, direction, range, and ends sought to be served; (2) the influence exerted respectively by the Phœnicians and the Romans as pioneers of civilisation.

Monday, 19th January, 2 to 5 p.m.

MEDIÆVAL HISTORY.

The Crusades, from 1096 *to* 1273.

I. State the motives which induced the Teutonic nations to engage with greater eagerness than the Latin, in the struggles for the recovery of the Holy Land.

II. What extensive privileges and immunities were granted to the persons who assumed the cross? Shew the influence they exerted on the state of property and civil government.

III. Give an account as complete as possible of (1) the Assize of Jerusalem, and (2) the judicial courts instituted by Godfrey.

IV. Draw a plan of Jerusalem and the adjacent country, marking upon it the generally assumed sites of (1) the mosque of Omar, the tower of David, Mounts Olivet, Sion, and Calvary, the valley of Ben Hinnom, the torrent of Kedron; and (2) the posts occupied by the crusading chiefs during the first siege of the city.

V. Relate (1) the mission of Shiracouh to Egypt, and (2) the battle of Tiberias.

VI. What part did Herman of Salza, Almeric of Lusignan, and William Longsword take in the Holy Wars?

VII. Examine critically the Treaty of Ferentino, and that between Frederic II. and the Sultan Kameel. Why was the latter disapproved of by the Pope?

VIII. To what institutions did the Crusades give rise, and what was the influence some of them were destined to exert on the politics of Europe?

IX. Compare the *earlier* with the *later* Crusades.

Tuesday, 20th January, 10 a.m. to 1 p.m.

MODERN HISTORY.

Spain under Ferdinand the Catholic and Charles I.

I. Compare the respective powers of the crown, the nobles, and the cities in Castile at the commencement of Ferdinand the Catholic's reign, and at the abdication of Charles I. State briefly by what measures the prerogatives of the crown were increased.

II. Draw a map showing the Spanish dominions in America (1)

in the year 1500, (2) in 1550 How were the respective claims of Spain and Portugal to territories in the New World settled?

III. How do you account for the long continuance of the kingdom of Granada after the reconquest of the rest of Spain by the Christians? Illustrate by a map the territories still held by the rival sovereigns Abdallah and El Zagal after the fall of Malaga in 1487.

IV. Trace briefly the history of the organization and operations of the Inquisition in Spain up to the death of Isabella.

V. Explain the respective claims of Ferdinand the Catholic and Louis XII. to the throne of Naples.

VI. Give an account of the military reforms of Gonsalvo de Cordova, and a brief sketch of any one of his Italian campaigns.

VII. Enumerate the principal measures affecting trade which distinguished the reign of Ferdinand and Isabella.

VIII. Give a short account of the life and achievements of (1) Pizarro, (2) Antonio da Leyva, (3) Loyola.

IX. State what you know of the life and writings of Las Casas and Peter Martyr.

TUESDAY, 20TH JANUARY, 2 TO 5 P.M.

INDIAN HISTORY.

Rise and Fall of the Mahratta power.

I. Comment on the following observation of Sir W. W. Hunter:—"The British won India, not from the Moghuls, but from the Hindus."

II. Sketch briefly the military, financial, and judicial regulations of Sivaji.

III. Sketch a map of India shewing its political divisions at the end of the 17th Century, and shew how the conditions were favourable to the rise of a new power in the country.

IV. Trace the steps by which the power of the descendants of Sivaji was engrossed by the Peishwas.

V. Give a summary of the military and financial resources of the Mahrattas in the time of Baji Rao, the second Peishwa.

VI. The battle of Paniput, (A.D. 1761) has been called the Flodden-field of the Mahrattas. Why? Estimate the political consequences of the defeat.

VII. Give a brief sketch of the events that led to the overthrow of the Mahratta confederation, and of the power of the Peishwas in the early part of the present century, (from 1800 to 1818.)

VIII. Discuss the following question by the light of actual history:—Whether, if the British had not appeared on the stage, the Mahrattas would have become the rulers of all India.

WEDNESDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

SPECIAL HISTORICAL SUBJECT.

The History of England's connection with the African slave trade.

I. What was the relation of the English Government to the slave trade, before the movement against the trade commenced?

II. Professor Drummond, in his "Tropical Africa," calls the slave trade "the heart-disease of Africa"; and Buxton writes, "The trade has made Africa one universal den of desolation, misery, and crime." Substantiate these two statements.

III. Describe in some detail (1) how the question of the legal existence of slavery was raised; (2) the united practical action taken in the matter by the Quakers; (3) the first literary treatment of the question; and (4) the inauguration of the parliamentary conduct of the movement

IV. Write short notes on the African Company, the African Association, the Sierra Leone Company, the African Institution, the Anti-Slavery Society, and the African Lakes Company.

V. What was the attitude taken respectively by Pitt, Fox, Lord Grenville, Canning, Earl Grey, and the Earl of Clarendon towards the slave question?

VI. State what you know regarding the different Bills carried by Parliament in connection with the slave trade

VII. Sketch briefly the history of the Niger expedition, the Tsad expedition, and the Zambesi expedition.

VIII. State in a few words the position taken in the movement against the slave trade by *any six* of the following individuals:—Bishop Porteous, Dr Peckard, Thomas Clarkson, Granville Sharp, William Wilberforce, Zachary Macaulay, Lord Brougham, Buxton, Dundas, General Tarleton, Bryen Edwards, Windham, Lord Castlereagh, Stephen, Livingstone, and Gordon.

IX. What were the obstacles in the way of the Abolitionists?

X. Draw a map showing the present centres of the slave trade in Africa, and the most important routes of slave caravans.

THURSDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

EPIGRAPHY.

N.B.—*Candidates are required to answer all the questions in Part I. and any ten in Part II.*

PART I.

I Describe in detail the process by which mechanical copies can be prepared by hand (1) of stone inscriptions, and (2) of copper-plate inscriptions

II. Give the names of (1) the lunar months, (2) the solar months, (3) the first and the last year of the cycle of Bṛihaspati

III. Characterise the two artificial systems of expressing numerals (1) by words, and (2) by letters of the alphabet.

IV. What synchronisms between the Pallavas of Kâñchîpuram and the Chalukyas have been established by means of inscriptions of both dynasties?

V. Give the approximate dates of the two Chôla kings, Râjarâja and Râjêndra-Chôla In what manner have these dates been established?

VI. Which synchronisms between the Chôla, Gaṅga, and Bâna dynasties have been discovered by Mr. Foulkes?

VII. On what grounds does Mr. Fleet consider the early copper-plate grants of the Gaṅga dynasty to be forgeries?

PART II.

I. Give the equations for converting dates in the Saka, Vikrama, Gupta-Valabhî, Harsha, and Kollam eras into Christian ones.

II. What are the sources for the history of the founder of the Harsha era?

III By which king was the Châlukya-Vikrama varsha established, and from which Śaka year does this era commence?

IV. In which inscriptions do we find the earliest mention of the Chôḷas, Chêras, and Pâṇḍyas? To what period do these inscriptions belong?

V. To which dynasty do the cave inscriptions at Nâsik belong? At what ancient town in the Madras Presidency have inscriptions of the same dynasty been discovered?

VI. Name the different branches of the Chalukya dynasty.

VII. Which two modern alphabets are derived from the character of the Chalukya inscriptions? State the chief points of difference between these two modern alphabets.

VIII. By what essential peculiarity are (1) the alphabet of the Southern Asôka inscriptions, and (2) the Tamil and Vaṭṭeluttu alphabets distinguished from all other Indian alphabets?

IX. In what few remarkable points does the Tamil of inscriptions differ from the printed character?

X. In what way do you account for the sign ெ (*e*) being written before, though pronounced after a consonant?

XI. What is the probable age of the copper-plate deeds in possession of the Jews and the Syrian Christians of Malabar?

XII. From what two published sources—a copper-plate inscription and a chronicle—do we know the names of some of the predecessors of the Chôla king Râjarâja?

XIII Which alphabets are employed in the inscriptions of the Chôla dynasty?

XIV. Which variety of the Nâgarî character was used by the kings of Vijayanagara?

XV. Give the approximate date of the foundation of the Vijayanagara kingdom.

XVI In what year, in what battle, and by what enemies was Râmarâja of Vijayanagara conquered?

XVII. What is the difference beteeen a *dêvâdâna* and a *brahmadêya*?

XVIII Explain the abbreviations *śudi* and *badi*.

XIX. To what rule of the sacred law of the Hindûs does the expression *udakapûrvam*, found in grants, refer?

XX. On what special occasions were grants considered most meritorious? In what manner has this religious belief proved very useful for calculating dates of inscriptions?

THURSDAY, 22ND JANUARY, 2 TO 5 P.M.

INTERNATIONAL LAW.

I. Define 'International Law.' Into what periods may you divide it?

II. Distinguish between "a sovereign state" and "a part sovereign state." How far is the latter subject to the Law of Nations?

III. Discuss fully the doctrine of non-intervention.

IV. 1. What is meant by 'the Right of Innocent Passage'?

2 What are the rights and obligations in varying circumstances of two riparian states?

V. 1. Comment on the old maxim "enemy ships, enemy goods; free ships, free goods."

2. What were the main provisions of the Declaration of Paris, 1854?

VI. What are the principles of International Law by which (1) the General of an Army and (2) the admiral of a Fleet are to be respectively guided in the following cases:—(*a*) the capture of a spy; (*b*) the capture of a soldier in uniform spying out the enemy's position; (*c*) the capture of a neutral vessel conveying naval stores to an enemy's territory; (*d*) the capture of an enemy's ship conveying goods to a neutral country.

VII. What was "the famous case of the Silesian loan"? How would the decision arrived ot in that case affect English holders of Russian stock in case of a war between England and Russia?

VIII. What are the modern laws of war regarding ambulance and military hospitals as laid down at the Geneva Convention of 1864?

IX. 1. How far is the recent partition of Africa in accordance with the principles of International Law?

2. What confers a good international title to an unappropriated country?

X. Write notes on:—*Jus gentium*, *mare clausum*, the King's Chambers, the fiction of ex-territoriality, neutrality, *levée en masse*, paper blockade.

FRIDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

POLITICAL ECONOMY.

I. Describe the methods of exposition of Political Economy adopted by Adam Smith, Ricardo, and Mill, respectively, and account for the differences you observe between them.

II. Briefly state the economical doctrines respectively associated with the names of Malthus, Anderson, Sir Dudley North, Quesnay, and F. A. Walker.

III. Give as complete an account as you can of the history of land tenures in Western Europe. What is the closest European analogy to the ryotwari system of India?

IV. Explain accurately the meanings of the words 'demand' and 'supply' as they are used by Adam Smith, Mill, and Cairnes, respectively, and give Cairnes's reasons for not accepting Mill's treatment of demand and supply as final.

V. It is stated that in California wages and interest have fallen together 5 per cent, and from this fact it is argued that wages do not rise because of an increase of capital. How would you explain the phenomena, assuming them not to be due to an increase of population?

VI. Investigate the truth of the proposition—"Profits tend to an equality."

VII What are the conditions which determine the different rates of wages of different classes of labourers? Does the usual classification of the receivers of wealth by distribution include domestic servants? Explain how their rates of wages are regulated.

VIII. "Improvement of means of communication lowers rents." What amount of truth is there in this statement?

IX. How does Cairnes prove the folly on the part of Trades Unions in attempting to "enhance the difficulties of production, and thereby increase the quantity of work needed to be done."?

Friday, 23rd January, 2 to 5 p.m.

POLITICAL ECONOMY.

I. Show that, although there is reason to believe that fifty years ago a properly devised system of protection might have been to the advantage of America, the converse is the fact at the present day. Point out the practical disadvantages which tend to accompany protection in new countries, even if protection is theoretically advantageous.

II. The new American tariff threatens to exclude certain classes of English goods from the American markets: to what extent are (1) *retaliation* or (2) *reciprocity* applicable as remedies in this case? What grounds are there for believing that, in many cases, English manufactures will still be able to compete with American ones?

III. To what extent is it true that monopolists, considered as (1) individual firms or companies and (2) associations of firms or *trusts*, are able to gain exorbitant profits? How far is State control justifiable in the case of such monopolies as gas, water, railways, etc., and what do you consider to be the best methods of applying such control?

IV. 1. Criticise the principal definitions of money.

2. Point out the origin, advantages, and disadvantages of the *one reserve system* as now existing in England.

3 Discuss the economic importance of the nominal value of current coin.

V. Discuss the propositions: "The exchange value of the use of money, estimated in money, is more or less vaguely confounded by practical men with the exchange value of money relatively to goods; and it is more definitely and deliberately identified by Mill and other economists, with the rate of interest on capital generally."

VI. Trace the influence of a prolonged strike of dock labourers in London on foreign trade.

VII. How do you account for differences in the rate of interest

prevailing in countries which are yet in permanent commercial relations with one another?

VIII. If two countries A and B are engaged in trade with one another, what are the laws determining the proportion of cost of carriage to be borne by each country? Show that it does not follow that the country that pays the greatest share of the cost of carriage is the one that gains least.

SATURDAY, 24TH JANUARY, 10 A.M. TO 1 P.M.

ESSAY ON POLITICAL ECONOMY.

Write an essay on any one of the following subjects:—

1. Strikes as a means of raising the position of workmen.

2. The economic effects of the hoarding of the precious metals in India.

3. Trace the effects of a depreciation of silver (*a*) in England, which has a gold standard; (*b*) in India, which has a silver standard (*c*) in France which has a double standard.

BRANCH VI., ENGLISH.

MONDAY, 19TH JANUARY, 10 A.M. TO 1 P.M.

COMPARATIVE PHILOLOGY.

I. "Doctrines which, ten years ago, were accounted orthodox in Comparative Philology, are now (1890) universally recognised as being inadequate or false." *Sayce.* Briefly explain this statement.

II. 1. Distinguish between Philology and Comparative Philology.

2. Mention the various names that have been proposed for the latter science, and briefly discuss the appropriateness of each name.

III (1) What are the great causes of change in Language? (2) Show by examples the power of any *one* of these causes. (3) Give three examples of word-change due to the influence of superstition.

IV. (1) Tabulate the consonants that correspond in (*a*) the classical languages, (*b*) English, (*c*) Old High German, to the Parent-Aryan K, T, and P; and give one word as an example under each head. (2) Give a physiological explanation of the *Lautverschiebung* just mentioned. (3) What English words correspond by Grimm's Law to the Sanskrit (*a*) *'satam*, (*b*) *pâda*, (*c*) *antara*, (*d*) *pas' u*, (*e*) *jânu*? (4) Write out a comparative table of the forms, where such exist, that correspond in Sanskrit, Greek, Latin, and Gothic, to the following English pronouns:—*we*, *us* (acc.), *thee* (dat.), *ye*.

V. 1. Test by the laws of scientific etymology each of the following pairs of equivalent words, pointing out where a connection exists between the two words of each pair, and where there is no connection:—(*a*) καλέω (Gk.) and *call* (Eng.); (*b*) *s'van* (Sk.) and *hound* (Eng.); (*c*) ὅλος (Gk.) and *whole* (Eng.); (*d*) *sanguis* (Lat.) and *sengui* (Mandshu); (*e*) *dvéram* (Sk.) and *door* (Eng.); (*f*) πόταμος (Gk.) and *potómac* (N. Amer. Indian).

2. Trace back to its original form each of the English words having the common form *sound*.

3. Write a philological note on each of the following:—(*a*) *même* (Fr.); (*b*) *age*; (*c*) *knowledge*; (*d*) *cerebrum* (Lat.) (*e*) The Aryan suffix-*tar*.

VI. (1) Define (*a*) a sound, (*b*) a vowel, (*c*) a glide. (2) Explain what is meant by the Neutral Vowel, and give six examples of English words containing it. (3) "Clicks" have been regarded as a possible survival of the primitive utterances out of which language arose. What spoken languages exhibit these or similar sounds; and how far does the diffusion of these sounds over the globe justify the opinion mentioned above?

VII. Trace up to *ten* the growth of the Aryan numerals, paying special attention to Sematology; and briefly refer to the conception of Number prevalent at the present day among barbarous and savage peoples.

VIII. Mention *four* Aryan languages in which the definite article is used as a prefix; and *four* of the same family in which it is used as a postfix; and enquire briefly into the cause of this diversity of usage.

IX. State the various theories that have been held about Roots, testing each theory by the comparative linguistic method, and pointing out such of them as are due to an exclusive study of the Aryan family of languages.

X. Relate, with examples, the different contrivances that have been adopted by language for denoting the relations of Grammar.

MONDAY, 19TH JANUARY, 2 TO 5 P.M.

HISTORY OF THE ENGLISH LANGUAGE.

I. "The English language possesses a most copious literature which goes as far back as the end of the eighth century, so that it is possible to mark out with some distinctness different periods in the growth or history of our language." *Morris.* Mark out these periods, and give the chief characteristics of the first two periods, as regards grammar.

II. 1. What dialects of English were there in the thirteenth and fourteenth centuries? In what counties were they spoken? By what grammatical differences were they distinguished?

2. Examine minutely the following passages, and point out any indications of the date and place of composition:—

(*a*) And ich wulle uaren to Aualun
To uariest alre maidene
And hes scal mine wunden
Makien alle isunde.

(*b*) Herkne now hwat me haveth met
Me pouthe y was in Denemark set
But on on pe moste hil
Þat evere yete kam i til.

(*c*) For upe-hoven es þi mykelhede
Over hevens þat ere brade;
Of mouth of children and soukand
Made þou lof in ilka land.

III. (1) Give the phonetic value of the vowel-sound in the oldest English form of each of the following words:—same, long, home, broad, child, night, five, out. (2) "Many words which in the oldest English had not 'a,' but some weaker and softer vowel, have now by some means acquired it" Give examples. (3) What was the function of the letter H in the oldest English? When were the letters K and Q introduced?

IV. (1) Where was the accent placed in the oldest English? What different system of accentuation was introduced by the Norman Conquest? (2) Give an account of any peculiarities of accentuation you may have noted in Chaucer, Spencer, Shakespeare, and Milton. (3) Illustrate the statement that unaccented syllables are more liable to be lost than accented syllables.

V. 1. Draw up a list of the Teutonic and a separate list of the non-Teutonic, nouns, adjectives, verbs, and adverbs in the following passage:—

But to guide nations in the way of truth
By saving doctrine, and from error lead
To know, and knowing, worship God aright
Is yet more kingly. This attracts the soul,
Governs the inner man, the nobler part;
That other o'er the body only reigns,
And oft by force—which to a generous mind
So reigning can be no sincere delight.
Besides, to give a kingdom hath been thought
Greater and nobler done, and to lay down
Far more magnanimous, than to assume
Riches are needless, then, both for themselves,
And for thy reason why they should be sought—
To gain a sceptre oftest better missed.

2. Point out which of the words in the second list have been borrowed direct from Latin and which have come through French.

VI. 1. Write short notes on the italicised part of the following words:—else head*long*, dark*ling*, whil*om*, must, piece*meal*.

2. Point out, and give additional examples of, the changes, which the following words have undergone:—bridge, child, hoist, five, lady, thither, should, expound.

VII. 1. About what time did English spelling become settled in its present form? What brought about the settlement?

2. "There arisen a great dislocation of our orthographical system, a divorcement of our written from our spoken alphabet." Explain this statement, and show how this dislocation arose.

TUESDAY, 20TH JANUARY, 10 A.M. TO 1 P.M.

TEXT BOOKS.

Langland. *Piers the Plowman.* Chaucer. *The House of Fame.* Spenser. *The Faery Queene.*

I. (1) How many distinct forms of the poem 'Piers the Plowman' are found in the MSS. ? Describe the peculiarities and give the approximate date of each. Which is the best? (2) What inference may be drawn from 'Piers the Plowman' respecting the vocabulary of the language of the common people at the time the poem was written? (3) It has been remarked of Chaucer and the author of 'Piers the Plowman' that "each was, in a great measure, the supplement of the other, notwithstanding the sentiments which they had in common." Illustrate this statement.

II. Describe fully the metre of 'Piers the Plowman,' and illustrate your answer by an examination of the metre of any passage of not less than four lines.

III. Re-write the following passages in the language of the present day and parse the words in italics, remarking where necessary on the grammatical forms:—

1. Glosed pe gospel. *as hem good lyked,*
   For covetise of copis· construed it as þei wolde.
2. For many *mannus* malt· we mys wolde destruye.
   And also ȝe route of ratones· rende mennes clothes;
   Nere þat cat of þat courte· þat can ȝou ouerlepe. [soun,
3. And drynke whan pow dryest, ac do nouȝt out of re-
   That pow *worth* þe werse· whan pow worche shuldest.
4. *Lereth* it þis lewde men· for lettred men it *knowen,*
   Þat treuthe is tresore· þe triest on erþe.
5. Loke uppon þi left half· and lo where he standeth,
   Bothe fals and fauel· and *here* feres manye!
6. Curteisliche þe kynge panne· comsed to telle,
   To Mede þe mayde, melleth *þise* wordes.
7. *There* she is wel with þe kynge, wo is þe rewme.
8. And do bote to brugges, þat *to-broke* were.

IV. Re-write the following passages in modern English and state respecting them (1) the circumstances alluded to in (*a*); (2) the persons, in (*b*) and (*c*); (3) the customs, in (*d*) and (*e*); (4) the popular belief in (*f*):—

(*a*) He preved þat þise pestilences· were for pure synne,
   Ac þe southwest wynde. on saterday at evene
   Was þertliche for pure pryde· and for no point elles.
(*b*) Curteisliche þe kinge panne. come aȝein resoun,

And betweene hym-self and his sone· sette hym on benche,
And wordeden wel wyseli· a gret while togideres.
(*c*) Ac resoun shall rekene with ȝou· ȝif I regne any while.
(*d*) Cokes and here knaves· crieden 'hote pies, hote! Gode gris and goode gees, gowe dyne, gowe!'
(*e*) And taketh me but a taile· for ten quarteres of otes.
(*f*) Orientales and ewages, enuenymes to destroye.

V. 1. From what Latin poems did Chaucer get the general idea of a House of Fame, and what Italian poem has he followed in his treatment of the subject?

2. Which book of the poem describes the *house* of Fame? Give briefly the argument of the book.

VI. Decline the pronouns of the first, second, and third persons as found in Chaucer's writings.

VII. Give the substance of Chaucer's description of Fame. From what source did he take it? What curious alteration has he introduced into his discription?

VIII. 1. Explain the words italicised in the following passages, and where necessary remark on any peculiarities of grammar involved in them:—

(*a*) But that our flesch *ne hath no* might
To understanden hit aright.
(*b*) Of alle that they dreme *to-yere*.
(*c*) *What* shulde I speke more queynte?
(*d*) That *so* she saved him his lyf,
He wolde have taken hir *to* his wyf.
(*e*) *Me mette*—'Awak,' to me he seyde.
(*f*) I *noot y-wis*; but God, thou wost!
(*g*) That alle the men that *ben on lyve*,
Ne han the cunning to deserve
The beste of that *ilke* place.

2. Explain the following passages:—

(*a*) Or thus, so inly ful of dre
That no man may him bote bede
(*b*) That deed, but not I how, she was.
(*c*) For, al-so brouke I wel myn heed,
Ther may be under godliheed
Kevered many a shrewed vyce.
(*d*) Therefor I wol seye a proverbe,
That 'he that fully knoweth therbe
May saufly leye hit to his yè'.
(*e*) Now kythe thyn engyne and might
(*f*) Nat that I wilne, for maistrye,
Here art poetical be shewed.
(*g*) And that I do no diligence
To shewe crat, but sentence.

IX. 1. What was the purpose and plan of the Faery Queene as set forth in Spenser's letter to Sir Walter Raleigh? Did he adhere strictly to that plan?

2. Describe the stanza in which the Faery Queene is written.

X. (1) Describe Spenser's personification of Error and compare it with Milton's delineation of Sin. (2) Give in substance Spenser's description of Duessa as it may be gathered from various parts of the first book of the Faery Queene, and show from the description whom she is intended to represent. (3) What argument does Despaire use with the Redcrosse Knight to justify suicide? How does Una reply to them?

XI. 1. What is the meaning of the following expressions that occur in the first two books of the Faery Queene:—(*a*) true as touch, (*b*) upon the wager, (*c*) timely voices, (*d*) deformed crimes, (*e*) well of life, (*f*) the subject plaine, (*g*) thrillant speare, (*h*) flaggy wings, (*i*) deaw burning blade, (*j*) intended sting, (*k*) raskall many, (*l*) ghastly bug, (*m*) wanton ivy, (*n*) trenchand blade?

2. What change has taken place in the signification or usage of the following words since Spenser's time:—(*a*) thews, (*b*) imp, (*c*) buxom, (*d*) disease, (*e*) remorse, (*f*) hospital, (*g*) firm, (*h*) forgery, (*i*) careful, (*j*) uncouth, (*k*) invent, (*l*) admire, (*m*) bugle, (*n*) impeach?

3. What are Spenser's forms of the following words:—(*a*) humility, (*b*) savage, (*c*) shamefacod, (*d*) covetousness, (*e*) crimson, (*f*) spite, (*g*) foolhardiness, (*h*) sport, (*i*) magnet, (*j*) riches, (*k*) spend?

XII. Explain the following passages and parse the words italicised:—

1. This is the *wandering* wood, this Errours den,
   A monster vile whom God and man does hate:
   Therefore I read beware.
2. By this the northern wagoner had set
   His sevenfold teme behind the steadfast starre
   That was in ocean waves yet never wet.
3. *Him booteth* not *resist*, nor succour call,
   His bleeding hart is in the vengers hand.
4. On th' other side in all mens open vew
   Duessa placed is, and on a tree
   Sans foy his shield his hangd with bloudy hew
5. But first though must a season fast and pray,
   Till from her bands the spright assoiled is,
   And have her strength recur'd from fraile infirmitis.
6. Certes, (said she), I wote now how he hight
   But under him a gray steede he did wield,
   Whose sides with dapled circles weren dight.
7. So bene they both attone, and doen upreare
   Their bevers bright, each other *for to greete*

TUESDAY, 20TH JANUARY, 2 TO 5 P.M.

TEXT BOOKS.

Marlowe *Dr. Faustus.* Shakespeare. *Measure for Measure; Timon of Athens; Henry IV. Parts* 1 *and* 2. Ben Jonson. *The Fall of Sejanus.* Otway. *Venice Preserved.*

I. (1) Give an account of the origin of the Faust Legend (2) Describe the travels of Faustus, and give Mephistopheles' description of Rome. (3) Give Gluttony's description of himself. (4) How many opportunities for repentance are offered to Faust; and by whose means are they offered?

II. (1) Write an argument for *Venice Preserved* (not more than one page of foolscap.) (2) Is there any reason to suppose that any part of *Venice Preserved* was written with reference to Otway's own circumstances? Give reasons for your answer, and refer to any passages which seem to support your view. (3) What historical foundation is there for the play of *Venice Preserved?*

III. 1. Give a summary of the action of any one act of *Sejanus.*

2. By what persons and in what contexts were the following lines in *Sejanus* spoken:—

(*a*) Every virtue
Which parted unto others, gave them name
Flow'd mix'd in him.

(*b*) Contempt of fame begets contempt of virtue.

(*c*) The first ascents to sovereignty are hard.

Of whom was (*a*) spoken? Did he deserve it?

IV (1) One of the critics of Shakespeare's Henry IV., Part 1, says:—"This is a play which all men admire, and which most women dislike." Write a short review of Henry IV., Part 1, expanding and explaining this remark. (2) Prince Henry has two sides to his character. How does he show both sides in the scene in which he is first introduced? (3) How does Hotspur betray his character in the scene in which he is first introduced? (4) Discuss the question:—Was Falstaff a coward?

V. By what persons and in what contexts were the following passages (in the plays by Shakespeare) spoken:

(*a*) Methinks it were an easy leap,
To pluck bright honor from the pale-faced moon

(*b*) No more of that, Hal, an thou lovest me.

(*c*) I could have better spared a better man.

(*d*) Uneasy lies the head that wears a crown.

(*e*) O, it is excellent
To have a giant's strength; but it is tyrannous
To use it like a giant.

VI. Discuss the following criticism of Schlegel:—"*Timon of Athens*, of all the works of Shakespeare, possesses most the character of satire:—A laughing satire in the picture of the parasites and flatterers, and Juvenalian in the bitterness of Timon's imprecations on the ingratitude of a false world."

VII. Write short notes on the following words or phrases:—(1) I will set my countenance like a precisian. (2) We'll canvass every quiddity thereof. (3) Almain Rutters. (4) Those times are somewhat queasy to be touch'd. (5) A net of Vulcan's filing. (6) A peevish giglot. (7) Minions of the moon. (8) Happy man be his dole (9) Now is this vice's dagger become a squire. (10) The hooknos'd fellow of Rome. (11) Brow with homely biggin bound.

(12) Under which king, Bezonian? (13) Fillip me with a three-man beetle. (14) A lugged bear. (15) If he will touch the estimate. (16) Nief. (17) Fracted dates. (18) Grise of fortune.

VIII Give the substance of the following passages :—

1. Faustus Act I., sc. iii., *Enter* FAUSTUS *to conjure,*

or

The speech of Faustus beginning "Was this the face that launch'd a thousand ships."

2. Venice Preserved, Act II., sc. i., *The Rialto, Enter* PIERRE.

3. Henry IV.'s speech to Thomas of Clarence about his relations with Prince Henry.

4. Henry IV., Part 1, Act III, sc iv. *The Boar's Head Tavern in Eastcheap, Enter* FALSTAFF, GADSHILL, BANDOLPH, PETO, *and* FRANCIS,

or

Henry IV., Part 2, Act II., sc ii. *The Boar's Head Tavern in Eastcheap,* HOSTESS *and* DOLL TEARSHEET *discovered.*

WEDNESDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

ESSAY.

Write an essay on :—

The advantages and the disadvantages of specialization in study.

THURSDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

TEXT BOOKS.

Thomson. *The Seasons, Spring and Summer.* Wordsworth. *The Excursion, chaps. I. and II.* Tennyson. *Ballads and other poems.* Browning. *A Blot in the 'Scutcheon.* Johnson. *Rasselas.* Gibbon. *The Decline and Fall, chap. LXIV.* Burke. *Speeches on American Taxation and Conciliation with the Colonies.* Scott. *The Antiquary.* Newman. *The Idea of a University.*

I. Write brief explanatory notes on :—

1. "When he gets a frank, he fills it up exact to the weight of an ounce."

2. "They proclaim an annual wake which the bright season favours."

3. "Here in this roaring moon of daffodil and crocus."

4. "Thou'll 'gree to cut off thy 'taail,"

and explain the allusions in the following passages :—

5. "Such themes as these the rural Maro sung
To wide imperial Rome."

6. "Those three! the fourth
Was like the Son of God."

II. "Thomson's portraitures of love are always either coarse or inane." Comment on this statement with references to the text.

Write critical notes on (1) Thomson's phraseology and its effect on his disciples. (2) The naturalism of *The Seasons* as compared with that of *The Excursion.*

III. What is the purpose and plan of *The Excursion?* To what

extent is the poem autobiographical? Give a description of the vision seen by the Solitary among the mountains.

Taine says of Wordsworth's theory of poetry "It is the true sentiment, not the dignity of the folks, which makes the beauty of a subject; it is the true sentiment, not the dignity of the words, which makes the beauty of poetry." Critically comment on these words with special reference to *The Excursion*.

IV. Give a sketch of the plot of "A Blot in the 'Scutcheon," and write short notes on Browning's views of love and death, illustrating by references to, or quotations from this poem

V. Tennyson frequently appeals to the emotions for a solution of theological difficulties. Explain this statement, and illustrate it by references to *Ballads and other poems*. To what does the poet allude in his poem boginning "Dear Princess, living power, if that which lived?"

VI. Critically compare Johnson's view of pastoral life with that given by Wordsworth in *The Excursion*. How does Johnson treat the question of apparitions? Give his description of the functions and qualifications of a poet.

VII. Explain with reference to the context—"The disorders of the moral are sometimes corrected by those of the physical world, and an acrimonious humour falling on a single fibre of a single man, may prevent or suspend the misery of nations." Give a short account of the Moguls, describing the effects of their invasion under Baton on the various countries through which they passed. What was the origin of the Janissaries and how did they get their name?

VIII. What is meant by a king's bedesman? Give a short sketch of Eddie Ochiltree, and show how he contributes to the consummation of the plot of *The Antiquary*.

IX. Give a general statement of Burke's American policy, comparing it with other plans to which he makes reference. To what sources does Burke trace the American love of liberty? What is meant by "the American distribution between internal and external duties?"

X. What, according to Newman, is the special function of a University as distinct from other educational agencies? To what extent does an institution like the Madras University perform this function? What is classical literature? What considerations does Newman adduce in support of his statement that in all probability the age of English classical literature is past?

THURSDAY, 22ND JANUARY, 2 TO 5 P.M.

TEXT-BOOKS.

Ascham. *The Schoolmaster*. Bacon. *Advancement of Learning, bks. I. and II* Milton. *Paradise Regained*. Dryden. *Absalom and Achitophel*. Pope. *Essay on Man*. Swift. *The Drapier's Letters*. Sir Thomas Browne. *Hydriotaphia, or Urn Burial*.

I. (1) What evidence is there in the text that Ascham was a scholar of Henry VIII.'s time surviving into the reign of Elizabeth? Discuss his views on English poetry. (2) Explain "We have cause also in England to beware of unkindnesse" and "For where Aper de Sylva had passed the seas." (3) Explain the term Ευφυής.

II. (1) Write a short note on the extent to which Bacon's remarks on Universities apply to the University and Collegiate system of India. (2) Enumerate the three "Distempers of Learning." What fault does Bacon find with (*a*) Ascham, (*b*) "Duns and all the rable of barbarous questionistes?" (3) (*a*) Give his interpretation of "Dry light is the best." (*b*) Mention a passage in which he refers to *either* the immaterial nature of fire *or* the energy of steam. (*c*) Refer to the passage quoted from him by Swift concerning the prerogative of kings. (4) How is 'a deficience of learning' caused by the misplacement of the study of final causes?

III. (1) "Browne never has occasion to wander from his subject; for whatever happens to be his subject he metamorphoses all nature into it." "His opinions are tinged with the credulity of the age." Illustrate these criticisms from the text. (2) He thinks the remains in the urns were those of Romans or Romanized Britons. Which do you think more likely, and why? (3) What does he mean by "The metropolis of humidity;" "That devouring element leaves almost always a morsel for the earth *whereof all things are but a colony*;" "In bones well burnt, fire maketh a wall against itself"; "Death must be the Lucina of life?"

IV. (1) Warton thinks Paradise Regained would be better if it closed with the song of the angels. Do you agree with him? (2) Give the substance of Christ's reply to Satan's offer of wealth. (3) Mention passages where Milton seems to refer to his own life and experience

V. 1. Whence did Dryden borrow the ideas of the lines:—

(*a*) Not only hating David but the King.

(*b*) But wild ambition loves to slide, not stand,
And fortune's ice prefers to virtue's land.

(*c*) That unfeathered two-legged thing a son.

2. Why was Dryden so bitter against Buckingham?

3. "'Tis after God's own heart to cheat his heir."

What emendation has been suggested? Do you approve of it?

VI. 1. Quote and account for Pope's description of Bacon. What argument does he draw from the deaths of Sidney and Turenne? Explain the allusions in "gone to his own place," "I will go and whisper *among the reeds*. 'Beware of Wood's Halfpence.'"

2. Give a short description of Tom Punsibe's Dream.

VII. Write notes on:—

1. Or tread the mazy rounds his followers trod
And quitting sense call imitating God.
2. Oh sons of earth! attempt ye still to rise
By mountains piled on mountains, to the skies?
3. And canting Nadab let oblivion damn
Who made new porridge for the paschal lamb.
4. A church vermilion and a Moses' face.
5. The unequal ruler of the day
6. To be a liar in four hundred mouths.
7. Nature's own work it seemed (Nature taught art).
8. With prosperous wing full summed.

FRIDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

URDU: TRANSLATION.

Translate into English :—

۱— ہوشیار لوگ وہي ہین جو زمانے کے روش پر ہمیشہ نظر رکھتے ہین اور اپنے تمام کام کا بنیاد اُسي انداز پر کرتے ہین - اور ترقي سے بے بہرہ وہي لوگ ہین جو اس روش سے بے بہرہ رہتے ہین - مسلمانان ہند کے موجودہ تنزلي کا ایک بڑا سبب یہہ ہي کہ یہہ دریافت کرنے کي کوشش نہین کئے تھے کہ پہلے ہوا کسطرف بہتي تھي اور اب کسطرف بہنے لگي ہي - ہندون نے دور اندیشي کي تھي اسلئے اب وہ بہت خوش حال ہین - انگریزون کے شروع عملداري مین عدالتون اور سرکاري دفترون کي تمام کارروائي فارسي اور اردو مین ہوتي تھي اور مسلمانان ہند اس خیال مین سرشار تھے کہ یہي زبانین برابر جاري رہینگي - برخلاف اسکے ہندو لوگ ناواقف تھے کہ حاکم وقت کي زبان ضرور اس ملک مین رواج پائیگي - درحقیقت صفحات تواریخ اس امر کے شاہد ہین کہ ہر مفتوح ملک مین فاتح قوم کي زبان جاري ہوتي ہی - شاہان مغلیہ کے وقت مین ایسا ہي ہوا تھا - پس اس خیال سے ہندو لوگون نے انگریزي پڑہنا شروع کردیا جسکا نتیجہ اب یہہ دیکھنے مین آتا ہي کہ مسلمانون کے سنبھلتے سنبھلتے وہ کہین دور نکل گئے ہین - اسکے بعد بھي جب گورنمنٹ کے طرف سے کوشش ہونے لگي کہ مسلمان ہند انگریزي پڑھنا شروع کرین تب بھي وہ اینٹھے رہنے لگے - جسکا نتیجہ یہہ ہوا ہی کہ اب وہ میدان ترقي مین دوسرے فریقون کے تکاپو اور پیشروي کو حسد و حسرت کي نگاہون سے دیکھہ رہے ہین - کف افسوس مل رہے ہین - اور اپني غفلت پر اشک بے سود بہا رہے ہین - خیر اب خداے ذوالجلال کا شکر بجالانا چاہئے کہ وہ لاپروائي کے دن گذر گئے ہین - اور مسلمانون نے ہوش سنبھالا ہي - اب زمانے کے روش پر نظر کرنے لگے ہین - اور اب جد و جہد کر رہے ہین کہ خاکستر مذلت

سے جسپر اونکو اونکي غفلت نے دورانو بٹھلا دیا اوٹھہ کھڑے ہون اور مسند عزت اور بسور راحت کے ایک گوشہ پر جا بیٹھین - مگر اب بھي ہم دیکھتے ہیں کہ مسلمانون مین پوري دور اندیشي کي عادت پیدا نہین ہوي ہی - جس دن مسلمانون نے چادر غفلت اپنے بدن سے اتار دیا تھا اوسي دن سے گورنمنٹ سے مدت و سماجت کئي جا رہي ہی کہ وہ انکي حالت پر رحم کرے اور اپنے لطف و کرم کي نظر رکھے - بیس برس کے عرصے سے مسلمانون کي زبان پہہ التجا کرتے کرتے سوکھہ گئي ہی کہ ہماري تنزلي اس درجہ کو پہنچ چکي کہ جب تک گورنمنٹ خاص طور پر تائید نہین کریگي تب تک ممکن نہین ہي کہ ہم خاطر خواہ ترقي کر سکین اور دوسرے فریقون کے ساتھہ مقابلہ کرنے کا دم بھر سکین *

۲ــــسکندر نے بحسب لیاقت ہر شخص کے حال پر عنایت و رعایت کي - پھر ملکون مین نامے لکھے - رسول اور نامہ بردار روانہ کئے - نہ م فوج کو جمع کیا - سب کا بقدر استعداد و جوہر اضافہ مقرر کرکے بدعت اور ظلم کا مچلکا لیا - انصاف و عدالت کا حکم دیا - وضیع و شریف راضي ہوے - غریب نوازي عربا پروري کي چار دانگ عالم مین دہوم ہوي - فرمانروائي سکندر کي اور فیلقوس کے مرنے کي خبر سب کو معلوم ہوي - شہریار عجم کو ہرسال ہزار بیضۂ طلا فیلقوس ارسال کرتا تھا اسکے زمانے مین نہ بھیجے تھے - نامہ بر بھیجے کے اسے طلب کئے - سکندر نے جواب دیا کہ بھیجنے والا بیضہ طلائي کا صیاد اجل کے دام مین پھنسا - اسکي قضا آئي - اور اکثر شاہان زمین یونان کوس لمن الملک بجاتے تھے - سر پرغرور پیش سلطان جہان فرمانروا ي اس وجان نہ جھکاتے تھے - سب کو وعدہ و وعید فقط گفت و شنید سے رام کیا - زیر دام کیا - پھر لواي ظفر پیکر رایت فتح و نصرت بدست کو روانہ کیا - تمام زمیں بدست حیطۂ تسخیر مین لاکر خیر آئي - سب پر فتح پائي *

صحبت راست کب ہو کج سے بر آر
تیر آخر کو چلا کمان کو چھوڑ کر
استقامت ہي عجب شي نہین جسمین لغزش
نخل کا پانون زمین پر نہ پھسلتے دیکھا
الفت گل سے غلط ہی دعوي وارستگي
سرو ہي با وصف آزادگي گرفتار چمن
درد منت کش دوا نہ ہوا
مین نہ اچھا ہوا برا نہ ہوا
جان دی-دی ہوی اسي کی تھی
حق تو یہہ ہی کہ حق ادا نہوا
ترک لذت کر دلا بھیجے نہ تجھکو گزند
نوش تو نیچھے ہي پھلے نیش ہي زنبور کا
حرف سکہ کے ہون کیسے پر ادب کرتے نہین
زر سے جو چسپیدہ دل ہي اسکا رتبہ کم ہوا
عارت گر ناموس نہو گر ہوس زر
کیون شاہد گل باغ سے بازار مین آوے
سرمۂ تسخیر سے ہم خود مسخر کیون نہون
آنکھہ کي بدلي جو تھي جادو کا پتلا ہوگیا
ناقص کا صفا کیش سے مطلب نہ بر آوے
جو کور ہو عینک سے اُسے کیا نظر آوے
کنعان سے چاکے مصر مین یوسف ہوا عزیز
عزت کسوکي ہوتي نہین ہي وطن کے بیچ
خدا نے وسعت دامان ہمت کي عطا جسکو
نہین ہونے کا ہرگز تنگدل وہ تنگدستي مین

FRIDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

KANARESE: TRANSLATION.

Translate into English :—

1. ತನ್ನಯ ತಾಣಮಂ ತೊರೆದನೆಂತಿಯ ಶಕ್ತಿಸಮೇತನಾದೊಡಂ ಬ

ನ್ನ ಮನಾಂಪನಲ್ಪ ಬಲನಿಂ ಪರನಿಂದವನಿರ್ಪ ತಾಣದೊಳ್ । ಉನ್ನತಸತ್ವ ಮೆಂದಿಳೆಯೊಳೊಪ್ಪುವ ದಂತಿಪನಾದೊಡಂ ಕರಂ ಬನ್ನ ಮನೆಯ್ದುಗುಂ ಜಲದೆ ಪೊಕ್ಕೊಡೆ ನಕ್ರನಿನಲ್ತೆ ಸನ್ಮತೀ॥ 2. ನೀರದು ತನ್ನನೊಂದಿದುದ ಕಾತ್ಮಗುಣಂಗಳನಿತ್ತುಕಾಯಿಸಲ್ ವಾರಿಯು ಶೋಷಿಸಲ್ಸಖನ ಹಾನಿಯ ಸೈಸದೆಯುರ್ಕಿ ಬೆಂಕಿಯಂ । ಸೇರೆ ಕಡಂಗಿ ನೀರನೆರೆಯಲ್ಸುಧೆ ಮುನ್ನಿನ ಪಾಂಗು ಶೋಭಿಕುಂ ಧಾರುಣಿಯಲ್ಲಿ ಸಂತರ ಸುಮೈತ್ರಿಯುಮಿಾ ಪರಿಯಲ್ತೆ ಸನ್ಮತೀ॥ 3. ಮುನಿ ಮುನಿದು ಪೀರ್ದುದಂ ರಾಜವಂಶಕುಠಾರ ಕನಕ ನಲ್ಕೆಗೆ ನೆಲಂ ಬಿಟ್ಟುದಂ ರಘುಜರಾಮನ ಮನದ ಕೋಪದುರುಬೆಗೆ ಬಟ್ಟೆಗೊಟ್ಟುದಂ ಬಡಬಾನಲಂ ತನ್ನೊಳು। ದಿನದಿನದೊಳವಘುಡಿಸುತಿರ್ಪುದಂ ಬಹಳ ಜಡ ತನ ತನಗೆ ಬಂದುದಂ ಭಂಗಮೆಡೆಗೊಂಡುದಂ ನೆನನೆನದು ನಿಟ್ಟುಸುರ್ವಿಟ್ಟು ಸುಯಿವಂತುದಧಿ ತೆರೆ ಪೆರ್ಚುಗೆಯೊಳರ್ದುದು॥ 4. ಪಾಕಶಾಸನನ ಸಕಲೈಶ್ವರ್ಯಸಂಪದಕೆ ಬೇಕಾದ ವಸ್ತುವಂ ಪಡಿದಿತ್ತೆ ನೆನ್ನವ ರ್ಗಾ ಕುಲಿಶಧರನುಪಹತಿಯನೆಸಗನದರಿಂದಲಿನ್ನಿಳೆಗೆ ಮುನ್ನಿನಂತೆ। ಜೋಕೆ ಮಿಗೆ ತೆರಳಿ ನೀವೆಂದು ಸಂತೈಸಿ ರತ್ನಾಕರಂ ಕಳುಹಿದ ಕುಲಾದ್ರಿಗಳ ಪರ್ಬುಗೆಯ ನೇಕ ಬರುತಿಹವೆನಲ್ಪೇರ್ದೆರೆಗಳದ್ದು ಬರುತಿರ್ದವು ಮಹಾರ್ಣವದೊಳು॥ 5. ರವಿಚಂದ್ರಪ್ರಚುರಪ್ರಭಾಪ್ರಚಯಮಂ ಮೇಘಂ ಮಸುಂಕುತ್ತೆ ಕಾರ್ಷ್ಣ್ಯವಿಶಿಷ್ಟಂ ತಟದಂಕುರಾಲ್ಪರುಚಿಯಂ ಬೀರಿತ್ತುದಗ್ರಸ್ಪುರ । ತ್ಕವಿಕಾವ್ಯಪ್ರಕಟಪ್ರಭಾನಮನದಂ ಕೀಳ್ಕಬ್ಬಿಗಂ ಗುಪ್ತಗೈ ದವರಾತ್ಮೀಯಕೃತಿಪ್ರಭಾವತೆಯ ನಾದಂ ತೋರ್ಪವೋಲ್ದಾತ್ರಿಯೊಳ್॥ 6. ಖರಕರಸಿದ್ಧನೇಳ್ದು ದಿವಿಜೇಂದ್ರದಿಶಾದ್ರಿಗುಹಾನಿವಾಸದಿಂದುರುತಿಮಿರಾಭಿಭೂತಭುವನೋನ್ನತಲೋಹಕೆ ತನ್ನ ವಿದ್ಯೆಯಂ। ಧರೆಗರಿಪಲ್ಕೆ ಮುಟ್ಟಿಸೆ ಕರೋತ್ಕರಸಿದ್ದರಸಪ್ರವಾಹಮಂ ಪಿರಿದುದು ಚಿನ್ನಮಾದುದೆನೆ ಪೊಂಬಿಸಿಲೊಂದಿರೆ ಕಣ್ಗೆ ರಂಜಿಕುಂ॥ 7. ಇಳೆಯಂ ಮುರ್ಚಿ ಮುಸುಂಕಿ ನಿಶ್ಚಲತೆಯಿತ್ತಾಶಾಧಿಪರ್ಗೊಂಟುಗೊಂ ಟೊಳೆ ಸಾರ್ವಂತಿರೆ ಮಾಡಿ ವಹ್ನಿ ಸಖನಾನೆಂಬೊಂದಹಂಕಾರಮಂ। ತಳೆದಾ ಮಾರುತನಂ ಕರಂ ಪಿಡಿದು ತನ್ನೈಕಿಲ್ಗಳಿಂ ನಾಂದಿ ಸಂ ಚಲನಂ ಮಾಡಿ ತದಾಪ್ತನುರ್ಕು ಮುರಿದೇಂ ಪರ್ಬಿತ್ತೊ ಹೈಮಾಗಮಂ॥ 8. ರಯದಿಂ ಮುಸುಂಕುತಿರ್ಪತಿ ಶಯಹಿಮಮಂ ಕಳೆಯಲೆಂದಿನಂ ಶಿಖಿಯ ಸಮಾ । ಶ್ರಯಮೆಸಗಿ ಕಳೆಯ

ನೆನಲಾ ಕ್ರಯೊಕನಾಕ್ರಯೆಬಿನಿಷ್ಟವೀಂ ಸಮನಿಪುದೇ॥ 9. ಪ್ರತಿಯೊಬ್ಬ ಮನುಷ್ಯನು ಸ್ವಲ್ಪ ಸ್ವಲ್ಪ ಉದ್ಯೋಗ ಮಾಡುತ್ತಾ ಬಂದರೆ ಎಲ್ಲರಿಗೂ ಉನ್ನತಿಯುಂಟಾಗುವ ವಿಷಯದಲ್ಲಿಯೂ, ಹಾಗೆ ಮಾಡದೆ ಪ್ರತಿಯೊಬ್ಬನೂ ಪಾಲುಮಾರಿಕೆಯಿಂದ ನಾನೇನು ಮಾಡೀನು? ಎಂದು ಸರ್ವದಾ ಯೋಚನೆಯನ್ನೇ ಮಾಡುತ್ತಾ ಕೂತಿದ್ದರೆ ಎಲ್ಲರ ಸ್ಥಿತಿಗೂ ತೊಂದರೆ ಬರುವ ವಿಷಯದಲ್ಲಿಯೂ ದೃಷ್ಟಾಂತಬೇಕಾದರೆ ಬಹಳ ದೂರ ಹೋಗಬೇಕಾದ ಅವಶ್ಯವಿಲ್ಲ. ನಮ್ಮ ದೇಶದಲ್ಲಿಯೇ ಈ ದೃಷ್ಟಾಂತ ಶಿಕ್ಷು ತ್ತದೆ. ಯುರೋಪ್ ಖಂಡದ ಜನರು ನಮ್ಮ ದೇಶದ ಮೇಲೆ ರಾಜತ್ವವನ್ನು ನಡೆಸುತ್ತಾ ನಮ್ಮ ದೇಶದ 26 ಕೋಟಿ ಪ್ರಜೆಯ ಧನಪ್ರಾಣಮಾನಗಳನ್ನು ತಮ್ಮ ಮುಷ್ಟಿಯಲ್ಲಿಟ್ಟು ಕೊಂಡು, ನಮ್ಮ ಭರತಖಂಡದಲ್ಲಿಯೆ ರಾಜರು ಮೊದಲುಗೊಂಡು ರೈತರ ವರೆಗಿನ ಸಮಸ್ತ ಜನಗಳನ್ನು ಕಟ್ಟಿಗೆಯ ಸೂತ್ರದ ಬೊಂಬೆಗಳಂತೆ ತಮ್ಮ ಅಂಗುಳ್ಯಗ್ರದಲ್ಲಿ ಕುಣಿಸುತ್ತಾ ಇದ್ದಾರೆ. ವಿಚಾರ ಮಾಡಿ ನೋಡಿದರೆ, ಇವರು ಒಂದು ದೊಡ್ಡ ಮಂತ್ರಸಾಧನ ಬಲದಿಂದ ದುರ್ಘಟವಾದ ಎಲ್ಲಾ ಕೆಲಸಗಳನ್ನೂ ಸ್ವಲ್ಪ ಕ್ರಮದಿಂದಲೇ ಸಾಧಿಸಿ ಕೊಂಡು ತಮ್ಮ ಸಮುದಾಯವನ್ನು ಉನ್ನತಿಗೆ ತರುತ್ತಾರೆಂದು ಕಾಣುತ್ತದೆ. ಈ ಜನರಲ್ಲಿ ಪ್ರತಿ ಮನುಷ್ಯನೂ ಮಾಡುವ ಸಂಗತವಾದ ಉದ್ಯೋಗವೇ ಈ ಮಂತ್ರವಾಗಿದೆ. ಇವರು ಹಿಡಿಯುವ ಕೆಲಸವು ಸಣ್ಣದಾಗಲಿ ದೊಡ್ಡದಾಗಲಿ ಒಳ್ಳೇದಾಗಲಿ ಕೆಟ್ಟದಾಗಲಿ ಅದು ಕೊನೆ ಮುಟ್ಟುವ ವರಿಗೂ ಅದನ್ನು ಬಿಡದೇ ಇರುವದು ಇವರಿಗೆ ಸ್ವಾಭಾವಿಕವಾಗಿದೆ. ಈ ಗುಣವು ಅವರಲ್ಲಿ ದೊಡ್ಡವರಿಂದ ಸಣ್ಣವರ ವರಿಗೆ ಸರ್ವರಲ್ಲಿಯೂ ಇರುವದರಿಂದ ಅವರಶಕ್ತಿ ಇಷ್ಟು ಬಲೀಯವಾಗಿದೆ. ಇವರು ಮಣ್ಣು ಹಿಡಿದರೆ ಹೊನ್ನಾಗುತ್ತದೆ. ಪಾಲುಮಾರಿಕೆ ಎಂಬುವದು ಇವರಲ್ಲಿ ಪ್ರವೇಶ ಮಾಡುವದಕ್ಕೆ ಅಸ್ಪದವಿಲ್ಲವಾದ್ದರಿಂದ, ಐಕ್ಯಮತ್ಯದ ಸುಖವೂ ಅದರಿಂದ ದೊರಕುವ ಅಲಭ್ಯ ಲಾಭಗಳೂ ಇವರಿಗೆ ಸ್ವಾಧೀನವಾಗಿವೆ.

FRIDAY, 23RD JANUARY, 2 TO 5 P.M.

VERNACULAR TRANSLATION.

Translate into your Vernacular :—

1. Mathematics, and its application to astronomy and natural philosophy, are the most complete example of the discovery of truths

by reasoning; experimental science, of their discovery by direct observation. In all these cases we know that we can trust the operation, because the conclusions to which it has led have been found true by subsequent trial It is by the study of these, then, that we may hope to qualify ourselves for distinguishing truth, in cases where there do not exist the same ready means of verification.

In what consists the principal and most characteristic difference between one human intellect and another? In their ability to judge correctly of evidence. Our direct perceptions of truth are so limited; we know so few things by immediate intuition, that we depend for almost all our valuable knowledge, on evidence external to itself; and most of us are very unsafe hands at estimating evidence, where an appeal cannot be made to actual eyesight. The intellectual part of our education has nothing more important to do, than to correct or mitigate this almost universal infirmity. To do this with effect needs all the resources which the most perfect system of intellectual training can command. Those resources, as every teacher knows, are but of three kinds: first, models, secondly, rules, thirdly, appropriate practice. The models of the art of estimating evidence are furnished by science; the rules are suggested by science; and the study of science is the most fundamental portion of the practice.

Take in the first instance mathematics. It is chiefly from mathematics we realize the fact that there actually is a road to truth by means of reasoning; that anything real, and which will be found true when tried, can be arrived at by a mere operation of the mind.

2. Human society is an organism, the separate parts of which cannot be worked upon in an isolated manner. Whatever affects one member of this society affects all the other members, and consequently the organism as a whole. Great political revolutions, state changes, the discovery of fresh truths, of deeper knowledge, not only alter the face of a particular limited area of society, but bring about changes, or, we would rather say, improvements, progress, greater or less, in all departments of human life. And, if there is one department of which this may be said more emphatically than of any other, it is that of Education.

Education is concerned with the preparation for life in a human society of which the conditions are in a perpetual state of change and modification. Her office is to prepare each individual for future activity in this society, and she is to a certain extent answerable for the blessing or the curse which respectively follows on a rational or an irrational training for life. Hence it is not enough that she should have mastered the circumstances and conditions of life by which her pupils are surrounded in the present; she must also be able to look forward with prophetic grasp to the altered conditions in which their manhood or womanhood will be spent. And therefore educational systems must never be satisfied

to keep to old-fashioned grooves which do not accord with the new conditions of the times, but must be always ready to adapt themselves to the ever-changing aspect of things.

3. *Duke Frederick.*—I would thou hadst been son to some man else;
The world esteemed thy father honourable,
But I did find him still mine enemy:
Thou shouldst have better pleased me with this deed,
Hadst thou descended from another house.
But fare thee well; thou art a gallant youth;—
I would thou hadst told me of another father.
Orlando.—I am more proud to be Sir Roland's son,
His youngest son;—and would not change that calling,
To be adopted heir to Frederick.

4. Against the threats
Of malice, or of sorcery, or that power
Which erring men call chance, this I hold firm
Virtue may be assailed, but never hurt,
Surprised by unjust force, but not enthralled;
Yea, even that which mischief meant most harm
Shall in the happy trial prove most glory;
But evil on itself shall back recoil,
And mix no more with goodness; when at last,
Gathered like scum and settled to itself,
It shall be in eternal restless change
Self-fed and self-consumed: if this fail,
The pillared firmament is rottenness,
And earth's base built on stubble.

SATURDAY, 24TH JANUARY, 10 A.M. TO 1 P.M.

HISTORY OF ENGLISH LITERATURE.

I. Lowell says of Chaucer that he "was familiar with all that had been done by troubadour or trouvère;" he "works still in the solid material of his race, but with what airy lightness has he not infused it? Without ceasing to be English, he has escaped being insular." Remark upon these statements.

II. Name the *chief* writers in the English language from 1450-1550. Write a short biographical account of *one* of these; and, selecting a single work of *any other*, describe it and show how it reflects the time in which it was written.

III. Sir Philip Sidney remarks with reference to the plays of his time that they "be neither right tragedies nor right comedies, mingling kings and clowns, not because the matter so carrieth it, but thrusting in the clown by head and shoulders to play a part in majestical matters with neither decency nor discretion; so as neither the admiration and commiseration, nor the right sportfulness is by their mongrel tragi-comedy obtained."

(1) Do you recognise any fundamental difference between the provinces of tragedy and comedy? (2) How would you account for Sidney's view? Criticise it in the light of the history of English dramatic literature.

IV. 1. It has been said that Milton's life falls naturally into *three* epochs, *each with a strongly marked character*. What are these and what works belong to them? Give a brief description of *one* work of each period.

2. Contrast Milton and Samuel Butler in respect to their opinions and the general characteristics of their work.

V. 1. Describe the general features of Elizabethan prose.

2. What do you consider to be the essential characteristics of a good prose style? With what names would you connect the beginnings of such style?

VI. Sum up what you consider to be the leading characteristics of the literature of the age of Anne;

or

Write a short account of the *Spectator*. How would you estimate the influence it exercised?

VII. 1. Describe Johnson's methods as a literary critic and illustrate your answer from any one of his "Lives of the Poets."

2. What, in your opinion, is the function of a literary critic? Refer to any modern critic with whose writings you may be familiar and give a brief explanation of his critical method.

VIII. 1. What is meant by *ballad* poetry? Trace its earlier history.

2. How would you account for the revival of this form of poetry in the early part of the present century?

3. Name and briefly describe any modern ballad, taking your example from writers subsequent to Scott and Coleridge.

IX. To whom is reference made in the following? Explain carefully the remark in each case:—(1) The last of the Elizabethans; (2) One unequalled as a reasoner in rhyme; (3) The poet who turned Pegasus into a rocking-horse; (4) The Hogarth of Song.

BRANCH VI. (SANSKRIT).

MONDAY, 19TH JANUARY, 2 TO 5 P.M.

HISTORY OF THE SANSKRIT LANGUAGE.

I. Give the origin of the Dēvanāgarī character, and show how far it is connected with the Dravidian characters.

II. Was the Sanskrit language ever spoken? Give reasons for your opinion.

III. देवानांप्रिय, पाषण्ड, वैदूर्य, असुर, सुर, धव, कन्या.

Write notes on the derivations and meanings of these words.

IV. Show the most important differences between the ancient and modern Sanskrit in alphabet, pronunciation, declension, conjugation and syntax.

V. Write down any of the corresponding conjugational forms from the verb *to be* in Sanskrit, Greek and Latin, and show their relative ages.

VI. नाम च धातुजमाह निरुक्ते
व्याकरणे शकटस्य च तोकम् ॥

1. Explain the theory contained in the above, and state who propounded the opposite theory.

2. What influence has the former theory exercised on the Sanskrit language?

VII. Quote instances of Prākrit words which must be traced to the Vedic and not to the classical Sanskrit.

VIII. Give a list of Greek words which have been introduced into Sanskrit, and mention the approximate date of their introduction.

IX. Give the different meanings of the word **यवन** and assign to each its date. Who is referred to by the word **यवनी** in the following passage of Panditarāya?

यवनी नवनीतकोमलाङ्गी भवने चेन्मम भामिनी भवित्री
अवनीतलमेव साधु मन्ये न वनी माधवनी विनोदहेतुः ॥

X. करणीय, कृतवत्, आगम्य, आगत्य, भिक्ष्, शिक्ष्, अश्वायन्तः.

State which of the above forms are later and which older.

TUESDAY, 20TH JANUARY, 10 A.M. TO 1 P.M.

TEXT-BOOKS.

Rig Veda and Yaskas' Nirukta.

(The answers to be written in Sanskrit.)

I. कया शुभा सवयसः सनीळाः समान्या मरुतः संमिमिक्षुः ।
कया मती कुत एतास एतेऽचेति शुष्मं वृषणो वसुया ॥ १॥
कस्य ब्रह्माणि जुजुषुर्युवानः को अध्वरे मरुत आववर्त ।
श्येनाँ इव ध्रजतो अन्तरिक्षे केन महा मनसा रीरमाम ॥ २॥

कुतस्त्वमिन्द्र माहिनः सन्नेको यासि सत्पते किं त इत्था।
संशच्छसे समराणः शुभानैर्वोचेस्तन्नो हरिवो यत्ते अस्मे॥३॥
ब्रह्माणिमे मतयः शं सुतासः शुष्म इयर्ति प्रभृतो मे अद्रिः।
आशांसते प्रति हर्यत्युक्थेमा हरी वहतस्ता नो अच्छ॥४॥
अतो वयं मतमेभिर्युजानाः सक्षीमहि रायो अंशं महानाम्।
महीमिरेताँ उप युज्यहे न्विन्द्र स्वधामनु हि नो बभूथ॥५॥
कस्या वो मरुतः स्वधास्दद्यन्मामेकं समधत्ताहिहत्ये।
अहं ह्यूग्रस्तविषस्तुविष्मान्विश्वस्य शत्रोरनमं वधस्नैः॥६॥
भूरि चकर्थ युज्येभिरस्मे समानेभिर्वृषभ पौंस्येभिः।
भूरीणि हि कृणवामा शविष्ठेन्द्र क्रत्वा मरुतो यद्दशाम॥७॥
वधी वृत्रं मरुत इंद्रियेण स्वेन भामेन तविषो बभूवान्।
अहमेतामनवे विश्वश्चंद्राः सुगा अपश्चकर वज्रबाहुः॥८॥
अनुत्तमातें मघवन्नकिर्नु न त्वावाँ अस्ति देवता विदानः।
न जायमानो नशते न जातो यानि करिष्या कृणुहि प्रवृद्ध॥
एकस्य चिन्मे विभ्वस्त्वोजो या नु दधृष्वान्कृणवै मनीषा।
अहं ह्यूग्रो मरुतो विदानो यानि च्यवमिन्द्र इदीश एषम्॥
अमंदन्मा मरुतः स्तोमो अत्र यन्मे नरः श्रुत्यं ब्रह्म चक्र।
इन्द्रायं वृष्णे सुमखाय मह्यं सख्ये सखायस्तन्वे तनूभिः॥११॥
एवेदेते प्रति मा रोचमाना अनेद्यः श्रव एषो दधानाः।
संचक्ष्या मरुतश्चंद्रवर्णा अच्छांत मे छदयाथा च नूनम्॥१२॥
को न्वत्र मरुतो मामहे वः प्र यातन सखीरच्छा सखायः।

मन्मानि चित्रा अपिवातयंत एषां भूत नवेदा म ऋतानाम् ॥
आ यद्दुवस्याद्दुवसे न कारुरस्माञ्चक्रे मान्यस्य मेधा ।
ओ षु वर्त मरुतो विप्रमच्छेमा ब्रह्माणि जरिता वो अर्चत् ॥
एष वः स्तोमो मरुत इयं गीर्मादार्यस्य मान्यस्य कारोः ।
एषा यासीष्ट तन्वे वयां विद्यामेषं वृजनं जीरदानुम् ॥ १५॥

1. उपरि मुद्रितस्य पञ्चदशर्चसूक्तस्यार्थो वर्ण्यताम्.

2 एतस्मिन्नेव सूक्तेऽधोरेखाङ्किता ये ये शब्दास्तेते सविस्तरं व्याख्यायन्ताम्.

3. एतस्यैव सूक्तस्य आद्यपञ्चर्चस्य पदपाठं लिखत.

4 इदं सूक्तं केषांसंवादः ? कासां कासां ऋचां के के ऋषयः एतल्लिख्यताम्.

II. वैदिकानि मुख्यानि छंदांसि प्रत्येकं लक्षय. तेषामुदाहरणानि युष्मत्पठितसूक्तेभ्यो वा यास्कोद्धृतसूक्तेभ्यो वा दीयन्ताम्.

III. यूरोप् देशीया वेदविदो ये पण्डितास्तेषां नामानि लिख्यन्ताम्. एतैरपि पण्डितैः सायनाचार्येणापि रचितानां वेदव्याख्यानानां को भेदः ?

IV. किमिदं निरुक्तं ? तस्यचतादृशानामितरेषां ग्रन्थानां के प्रणेतारः ? तेषांकालंयथोचितं लिखत.

V. एतद्देशीया वेदव्याख्यातरः कतिविधाः ? तेषांनामानि तत्कृतव्याख्यानानिच दर्शयत.

VI. सर्वाणि नामान्याख्यातजातानि वा नवेति विचारयत.

VII अधो मुद्रिताः शब्दा ऋचश्च यास्कानुसारेण व्याक्रियन्ताम्. एतेषां शब्दानां ऋचां वा व्याख्यायां यास्कसायनपूर्वनैरुक्तानां यदि मतभेदो वर्तते स निरूप्यताम्.

1 अभ्यक्सा त इन्द्र ऋष्टिरस्मे. 5 दनः.
2 चत्वारि वाक्परिमिता पदानि. 6 द्विबर्हसः.
3. उरुगाय. 7 मृध्रवाचः.
4. कुचर. 8 शुरुधः.

VIII. किं ते कृण्वन्ति कीकटेषु गावो नाशिरं दुह्रे नतपन्तिघर्मम्।
आ नो भर प्रमगन्दस्य वेदो नैजगाखं मघवन्रन्धया नः॥

एतस्या ऋचोऽर्थं स्पष्टं लिखित्वा ततोऽवगम्यमानं ऐतिहासिकं वृत्तान्तं दर्शयत.

TUESDAY, 20TH JANUARY, 2 TO 5 P.M.

TEXT-BOOKS.

Kâdambarî (Pûrvabhâga) and *Sâṅkhyakârikâ with commentary.*

I. 1. (*a*) कादम्बरीं वर्जयित्वा अन्येषां श्रीमद्बाणभट्टकविना विरचितानां ग्रन्थानां नामानि कथयत. (*b*) तेनाश्रितस्य महाराजस्यनामधेयं किम्? अभिषेकसंवत्सरश्च कः? (*c*) पूर्वोक्तकविकृते हर्षचरिते ग्रन्थानां ग्रन्थकर्तृणां च नामानि कान्यभिधीयन्ते? (*d*) तस्यैव पितृपितामहप्रपितामहाः किंनामधेयाः? (*e*) कादम्बर्यारम्भे 'अतिद्वयी कथा' इति वाक्यं टीकाकृन्मतेन किं पूर्वग्रन्थद्वयमुद्दिश्योक्तम्? (*f*) लोपामुद्रा। मनोरमा। विलासवती। जाबालिः। पत्रलेखा। हंसः। इध्मवाहः। मदिरा। एतद्विषये यद्ज्ञातं तत् संक्षेपेण लिखत. (*g*) कादम्बर्याः पूर्वभागे का नगरनदीवनसंज्ञा विद्यन्ते? (*h*) का-

दम्बरीकथा पाश्चात्ये कस्मिंश्चित्काव्येऽपि वर्ण्यत इति ज्ञातं विद्वद्भिः; एतस्य काव्यस्य नाम किम्? कर्ता किमभिधानः किंकालीनश्च? तेन कथावस्तु कुत उद्धृतम्?

2. (a) अस्ति.....प्रेताधिपनगरीव सदासंनिहितमृत्युभीषणा महिषाधिष्ठिता च, समरोद्यतपताकिनीव बाणसमारोपितशिलीमुखा विमुक्तसिंहनादा च, कात्यायनीव प्रचलितखड्गभीषणा रक्तचन्दनालंकृता च, कर्णीसुतकथेव संनिहितविपुलाचला शशोपगता च, कल्पान्तप्रदोषसंध्येव प्रनृत्तनीलकण्ठा पल्लवारुणा च, अमृतमथनवेलेव श्रीद्रुमोपशोभिता वारुणीपरिगता च, प्रावृडिव घनश्यामलानेकशतह्रदालंकृता च, चन्द्रमूर्तिरिव सततमृक्षसार्थानुगता हरिणाध्यासिता च, राज्यस्थितिरिव चमरमृगवालव्यजनोपशोभिता समदगजघटापरिपालिता च, गिरितनयेव स्थाणुसंगता मृगपतिसेविता च, जानकीव प्रसूतकुशलवा निशाचरपरिगृहीता च, कामिनीव चन्दनमृगमदपरिमलवाहिनी रुचिरागुरुतिलकभूषिता च, सोत्कण्ठेव विविधपल्लवानिलवीजिता समदना च, बालश्रीवेव व्याघ्रनखपङ्क्तिमण्डिता गण्डकाभरणा च, पानभूमिरिव प्रकटितमधुकोशकशता प्रकीर्णविविधकुसुमा च, क्वचित्प्रलयवेलेव महावराहदंष्ट्रासमुत्खातधरणिमण्डला, क्वचिद्दशमुखनगरीव चटुलवानरवृन्दभज्यमाननतुङ्गशालाकुला, क्वचिदचिरनिर्वृत्तविवाहभूमिरिव हरितकुशसमित्कुसुमशमीपलाशशोभिता, क्वचिदुद्वृत्तमृगपतिनादभीतेव कण्टकिता, क्वचिन्मत्तेव कोकिलकुलप्रलापिनी, क्वचिदुन्मत्तेव वायुवेगकृततालशब्दा, क्वचिद्विधवेवोन्मुक्तपत्रा, क्वचित्समरभूमिरिव शरशतनिचिता,

क्वचिदमरपतितनुरिव नेत्रसहस्रसंकुला, क्वचिन्नारायणमूर्तिरिव तमालनीला, क्वचित्पार्थरथपताकेव कप्याक्रान्ता, क्वचिदवनिपतिद्वारभूमिरिव वेत्रलताशतदुष्प्रवेशा, क्वचिद्विराटनगरीव कीचकशताकुला, क्वचिदम्बरश्रीरिव व्याधानुगम्यमानतरलतारकमृगा, क्वचिद्गृहीतव्रतेव दर्भचीरजटावल्कलधारिणी, अपरिमितबहलपत्रसचयापि सप्तपर्णोपशोभिता, क्रूरसत्त्वापि मुनिजनसेविता, विन्ध्याटवी नाम। एतस्य वाक्यस्यालंकारशास्त्रानुसारेण संक्षेपतो व्याख्यानं विधेयम् ॥

(b) दूरं मुक्तालतया बिससितया विप्रलोभ्यमानो मे।
हंस इव दर्शिताशो मानसजन्मा त्वया नीतः।
इत्येतस्या आर्याया अर्थः प्रतिपाद्यताम् ॥

II 1 पञ्चविंशतितत्त्वानि क्रमेण लक्षयत। 2 तज्ज्ञानस्य फलं किम्? 3 दुःखत्रयं किम्? 4 प्रमाणं विभजध्वम्। 5 पुरुषस्यास्तित्वं कथमनुमीयते? 6 पुरुषस्य वास्तवधर्मा के? अवास्तवधर्माः के? 7 पुरुषप्रधानयोः संयोगस्य प्रयोजनं किम्? 8 अष्टविधमैश्वर्यं लक्षयत। 9. मनसः का वृत्तिः? 10 सूक्ष्ममातापितृजयोः को भेदः? 11 निमित्तनैमित्तिकौ किंविधौ किमात्मकौ च? 12 प्रकृतिपुरुषयोरुपकारित्वापकारित्वे कथम्? 13 योगी चक्रभ्रमवत्कुतस्तिष्ठति? 14 चतुर्दशभूतानि किमभिधानानि?

III 1 सांसिद्धिकाश्च भावाः प्राकृतिका वैकृताश्च धर्माद्याः।
दृष्टाः करणाश्रयिणः कार्याश्रयिणश्च कललाद्याः ॥
2 वैराग्यात्प्रकृतिलयः संसारो भवति राजसाद्रागात्।
ऐश्वर्यादविघातो विपर्ययात्तद्विपर्यासः ॥
3 आध्यात्मिकाश्चतस्रः प्रकृत्युपादानकालभाग्याख्याः।

बाह्या विषयोपरमात् पञ्च नव तुष्टयोऽभिहिताः ॥
4. प्रकृतेः सुकुमारतरं न किंचिदस्तीति मे मतिर्भवति ॥
एतेषां श्लोकानामर्थं स्पष्टीकृत्यविपुलां व्याख्यां कुरुत.

WEDNESDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

SANSKRIT ESSAY

धर्मशास्त्रोक्ता राजधर्माः के? एतं विषयमधिकृत्यैकमुपन्यासं लिखत.

THURSDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

TEXT-BOOKS

Āpastamba Grhya, Mitākshara (Āchārakāṇḍa), Sukranīti and *Kāmandakīya.*

I. धर्मशास्त्रस्योत्पत्तिः कथमभूत्?

II. मनयाज्ञवल्क्यस्मृत्योः को भेदः?

III. आपस्तम्बस्य विषये तत्कृतेभ्यो ग्रन्थेभ्यः भवद्भिः किं ज्ञायते?

IV. आश्वलायनगृह्यसूत्रापेक्षया आपस्तम्बगृह्यसूत्रे को विशेषः?

V 1 अधो लिखितानां वाक्याना मर्थोलिख्यताम्. (a) यथोपदेशं प्रधानाहुतीर्हुत्वा जयाभ्यातानान्नाष्टभृतः प्राजापत्या व्याहृतीर्विहृतास्सौविष्टकृतीमित्युपजुहोति ॥ (b) अग्नेरुपसमाधानाद्याज्यभागान्तेऽन्वारब्धायामुत्तरा आहुतीर्हुत्वा जयादि प्रतिपद्यते परिषेचनान्तं करोति ॥ (c) त्र्यहमेतमग्निधारयन्ति क्षारलवणवर्जनंच परित्वेति परिमृज्य तस्मिन्नुत्तरैर्मन्त्रैस्समिध आदध्यात् ॥ (d) जात्युत्कर्षो युगे ज्ञेयस्सप्तमे पञ्चमेऽपिवा व्यत्ययेकर्मणां साम्यं पूर्ववच्चाधरोत्तरम् ॥ (e) पूर्ववत्परिषेचन-

मन्वमंस्थाः प्रासवीरिति मन्त्रसंनामः ॥ (f) यथाकामी भवेद्वापि स्त्रीणां वरमनुस्मरन् ॥ (g) महोक्षं वा महाजं वा श्रोत्रियायोपकल्पयेत् ॥ (h) दत्तामपि हरेत्पूर्वात् श्रेयांश्चेद्वर आव्रजेत् ॥

2 एष्वन्तिमयोर्द्वयोर्वाक्ययोः विज्ञानेश्वरकृतां व्याख्यां विलिख्ययुष्मदभिप्रायंकथयत.

VI अनुलोमप्रतिलोमादीनां जातीनामुत्पत्तिमुक्त्वातासांकैकस्या अपि नाम लिखत.

VII वक्ष्यमाणानां शब्दानामर्थास्स्पष्टं लिख्यंताम :— दाक्षायणिन्, राहुसूतक, वृथामांस, गजच्छाया, त्रिणाचिकेत, (एते शब्दा याज्ञवल्क्येन प्रयुक्ताः); इण्व, एकाष्टका, शुङ्गा, निष्टक्र्य, एरका अपाचित, क्षार, वात्सप्र, पाकयज्ञ (एते गृह्यसूत्रे प्रयुक्ताः).

VIII द्विजातीनां शूद्रावेदनविषये याज्ञवल्क्योक्तानुत्सर्गापवादविधीन् व्याख्यातृतात्पर्येणसह दर्शयत.

IX याज्ञवल्क्योक्ता आर्वाचीनेकाले उत्सन्ना आचाराः के?

X विवाहेकीदृश्यः कन्यावर्जनीयाः? आपस्तम्बोक्तं दर्शयत.

XI. पुंसवनं किम्? कथमेतत्पदं निष्पन्नम्? गृह्यसूत्रानुसारेण तस्य कर्मणोविवरो लिख्यताम्.

XII नीतिशास्त्रमधिकृत्यके ग्रन्थानकार्षुः? तैर्विरचितानां ग्रन्थानां नामानि लिखत.

XIII 1 धर्माधिकरणम्, सौदायिकम्, ओसेधः; एतेषांकोऽर्थः? देशजातिकुलानां च ये धर्माः परिकीर्तिताः तथैव ते पालनीयाः. ऐतेषांधर्माणाम् कान्युदाहरणानि शुक्रनीतिसारेदत्तानि? 2 प्रतिनिधिर्नदावव्यः कर्ता तु विवदेत्स्वयम्. अस्यविधेः कुत्र-

प्रवृत्तिः ? 3 के साक्षिणो भवितुं नार्हन्ति? 4 कानिभोगेन नप्रणश्यन्ति?

XIV. 1 स्मृति, मति, बुद्धि, प्रज्ञा, प्रतिभाः कामन्दकमतानुसारेण काः ? 2 चकोरकौञ्चमत्तकोकिलभृंगराजशुकशारिकाणाम् राजभोक्तव्यान्नगतविषपरीक्षणे कथमुपयोगः ? 3 त्यागस्सत्यं च शौर्यं च त्रय एते महागुणाः एतेषां गुणानां किं फलम्? के राजानस्तत्फलमन्वभूवन्? कतमेनगुणेन?

XV कल्याणी बतगाथेयं लोकिकी प्रतिभाति माम्. 1 केयं गाथा? केष्वन्येषु ग्रन्थेष्वियं गाथा दृश्यते? 2 साब्रूतेयं सधर्मस्स्यादेकोवाध्यात्मवित्तमः? कुत्रत्यमेतद्वचनम्? तस्याथ वदत.

THURSDAY, 22ND JANUARY, 2 TO 5 P M

TEXT-BOOKS.

Mālatīmādhava, Ratnavalī, and *Kāvyaprakāśa.*

1. वक्ष्यमाणानां श्लोकानां विशदं व्याख्यानं विरचयत.

1 लीलोत्खातमृणालकाण्डकबलच्छेदेषु संपादिताः
पुष्यत्पुष्करवासितस्य पयसो गण्डूषसंक्रान्तयः ।
सेकः सीकरिणा करेण विहितः कामं विरामे पुनः
न स्नेहादनरालनालनलिनीपत्रातपत्रं धृतम् ॥

2 हर्म्याणां हेमशृङ्गश्रियमिव निचयैरर्चिषामादधानः
सान्द्रोद्यानद्रुमाग्रग्लपनपिशुनितात्यन्ततीव्रप्रतापः ।
कुर्वन्क्रीडामहीध्रं सजलजलधरश्यामलं धूमपातैः
एष क्षोभार्त्तयोषिज्जन इह सहसैवोत्थितोऽन्तःपुरेऽग्निः॥

3. आभात्यर्काशुतापक्वथदिव शफरोद्वर्तनैर्दीर्घिकाम्भः
छत्राभं नृत्तलीलाशिथिलमपि शिखी बर्हभारं तनोति।

छायाचक्रं तरूणां हरिणशिशुरुपैत्यालवालाम्बुलुब्धः
सद्यस्त्यक्त्वा कपोलं विशति मधुकरः कर्णपालीं गजस्य॥

II. 1 मालतीमाधवरत्नावल्योः मुख्यनायिकानायकयोरन्योन्यविवाहौचित्यसंपादकाः कथांशाये वर्तन्ते तान् दर्शयत. 2. भवभूतिश्रीहर्षयोरूपकरचनायां को भेदः? 3 कालिदासरचितेषु नाटकेषु कतमेन रत्नावली अत्यन्तं सदृशी भवति? तत्साम्यं च कीदृक्षु विषयेषु?

III 1 परिच्छेदव्यक्तिर्भवति न पुरःस्थेऽविषये।
भवत्यभ्यस्तेऽपि स्मरणमतथाभावावरसम्॥

2 अमात्यभूरिवसोरात्मजेत्यपर्याप्तिर्बहुमानस्य॥

3 तत्संगमं प्रति सखे नहि संशयोऽस्ति।
यस्मिन्विधिश्च मदनश्च कृताभियोगः॥

4 इयं नः कल्याणी रमयति मनः कम्पयति च॥

5 सहि कुदो वा महोदहिं वज्जिय पारिजादस्स उग्गमोत्ति॥

6 शास्त्रेषु निष्ठा सहजश्चबोधः प्रागल्भ्यमभ्यस्तगुणा च वाणी।
कालावबोधः प्रतिभानवत्त्वमेते गुणाः कामदुघाः क्रियासु॥

7 अहवा ण कमलाअरं वज्जिअ राअहंसो अण्णस्सि अहिरमदि॥

8 कण्ठाश्लेषं समासाद्य तस्याः प्रभ्रष्टयानया।
तुल्यावस्था सखीवेयं तनुराश्वास्यते मम॥

9 जदिसो तुए कामदेवो आलिहिदो तादिसी मए रइ आलिहिदेत्ति॥

एतेषां वाक्यानां कथासंदर्भान्विशदीकृत्यार्थं ब्रूत? तानि यैर्यान् प्रत्युक्तानि तेषांनामानि च कथयत.

IV 1 निमृष्टार्थदूती, वज्रलेपः, वलीवदनः, पूर्णपात्रम्, छोटिका, वादालेका, पारेच्छदः, केतनम्, प्राग्भारः, कैङ्किरात,

कूणित, पूर्णिका, कंदोष्टम्, वैशसम्. एतेषां पदानामर्थं विशदीकुरुत. 2 पाश, प्राय, कल्प,. जाह, चर, दघ्न, धेय; एतानि केष्वर्थविशेषेषुपदेभ्यः परतःप्रयुज्यन्ते? प्रयोगंच दर्शयत. 3 काकतालीयन्यायः कः? तत्सदृशः कोऽन्योन्यायो रत्नावल्यामुक्तः? तंच लक्षयत.

V प्रकरणं, नाटिका, बीजं, बिन्दुः, स्थायीभावः, प्रवेशकः एतेषां लक्षण कथयत. भवदधीतयोः रूपकयोः बीजबिन्दुस्थानानि क्व भवन्ति?

VI 1 केधातवो नित्यसन्नन्ताः? 2 केष्वर्थेषु धातोर्यङ् भवति? सोदाहरणमुत्तरं ब्रूत. 3 दुह्याच्पच्चदण्रुधिप्राच्छिचिब्रूशासुजिमथ् मुषाम्। कर्मयुक्स्यादकथितं तथास्यान्नीहृकृष्वहाम् ॥ अस्यार्थं सोदाहरणं दर्शयत.

VII 1 प्रतिवस्तूपमादृष्टान्तयोः, प्रतीपव्यतिरेकयो, अप्रस्तुतप्रशंसासमासोक्त्योः, दीपकतुल्ययोगितयोः—भेदोदर्शनीयः. 2 काव्यप्रकाशदशमोल्लासे भवदधीताभ्याम् रूपकाभ्याम् के श्लोकाः किमर्थमुदाहृताः? 3 प्रथमप्रश्नगतश्लोकस्थानलंकारान् निरूपयत.

FRIDAY, 23RD JANUARY, 10 A M TO 1 P M

TRANSLATION

I Translate into English —

1 आपो हि ष्ठा मयोभुवस्ता न ऊर्जे दधातन। महेरणाय चक्षसे ॥ १ ॥ यो वः शिवतमो रसस्तस्य भाजयतेह नः। उशतीरिव मातरः ॥ २ ॥ तस्मा अरं गमाम वो यस्य क्षयाय जिन्वथ। आपो जनयथा चनः ॥ ३ ॥ ईशाना वार्याणां क्षयन्तीश्चर्षणीनाम्। अपो याचामि भेषजम् ॥ ४ ॥

2 मथीद्यदी विष्ठो मातरिश्वा होतारंविश्वाप्सुं विश्वदेव्यं । नियंदधुर्मनुष्यासुविक्षु स्वर्णचित्रं वपुषेविभावं ॥ ददानमिन्नदंदभन्तमन्माग्निर्वरूथं ममतस्यचाकन् । जुषन्तंविश्वान्यस्यकर्मोपस्तुतिं भरमाणस्यकारोः॥ नित्येचिन्नुयं सदनेजगृभ्रेप्रशस्तिभिर्दधिरेयज्ञियासः । प्रमूनयन्तगृभयन्तइष्टावश्वासोनरथ्यो रारहाणः ॥ पुरुणिदस्मोनिरिणातिजम्भैराद्रोचतेवनआविभावा । आदस्यवातो अनुवाति शोचिरस्तुर्नशर्यामसनामनुद्यून् ॥ नयंरिपोनरिषण्यवो गर्भेसन्तं रेषणारेषयन्ति । अन्धा अपश्यानदभन्नभिख्यानित्या सई प्रेतारो अरक्षन् ॥

3. उपह्वये सुदुघां धेनुमेतां सुहस्तो गोधुगुत दोहदेनां ।
श्रेष्ठं सवं सविता साविषन्नोऽभीद्धो घर्मस्तदु षु प्र वोचं॥
हिंकृण्वती वसुपत्नी वसूनां वत्समिच्छंती मनसाभ्यागात् ।
दुहामश्विभ्यां पयो अघ्न्येयं सा वर्धतां महते सौभगाय ॥
गौरमीमेदनु वत्सं मिषंतं मूर्धानं हिङ्ङकृणोन्मातवा उ ।
सृक्कांणं घर्ममभि वावशाना मिमाति मायुं पयते पयोभिः ॥

4. वेदमधीत्य स्नास्यन्प्रागुदयाद्व्रजं प्रविश्यान्तर्लोम्ना चर्मणा द्वारमपिधायास्ते नैनमेतदहरादित्योऽभितपेत् मध्यन्दिनेऽग्नेरुपसमाधानाद्याज्यभागान्ते पालाशीं समिधमुत्तरयाधायापरेणाग्न कट एरकायां वोपविश्योत्तरया क्षुरमभिमन्त्र्योत्तरेण यजुषा वप्ते प्रदायापां संसर्जनाद्याकेशनिधानात्समानम् जघनार्धे व्रजस्योपविश्य विस्रस्य मेखलां ब्रह्मचारिणे प्रयच्छति तां स उत्तरेण यजुषोदम्बरमूले दर्भस्तम्बे वोपगूहते एवंविहताभिरेवाद्भि रुत्तराभिः षड्भिः स्नात्वोत्तरयोदुम्बरेण दतो धावते.

5 तद्येऽनादिष्टदेवता मन्त्रास्तेषु देवतोपपरीक्षा यद्देवत:

सयज्ञो वा यज्ञाङ्गं वा तद्देवता भवन्ति अथान्यत्र यज्ञात्प्राजापत्या इति याज्ञिका नाराशंसा इति नैरुक्ताः अपि वा सा काम देवता स्यात्प्रायोदेवता वास्ति ह्याचारो बहुलं लोके देवदेवत्यमतिथिदेवत्यं पितृदेवत्यम् याज्ञदैवतो मन्त्र इति अपि ह्यदेवता देवतावत्स्तूयन्ते यथाश्वप्रभृतीन्योषधिपर्यन्तान्यथाप्यष्टौ द्वन्द्वानि स न मन्येतागन्तूनिवार्थान्देवतानां प्रत्यक्षदृश्यमेतद्भवति माहाभाग्याद् देवताया एक आत्मा बहुधा स्तूयत एकस्यात्मनोऽन्ये देवाः प्रत्यङ्गानि भवन्ति अपि च सत्त्वानां प्रकृतिभूमभिर्ऋषयस्तुवन्तीत्याहुः प्रकृतिसार्वनाम्न्याच्चेतरेतरजन्मानो भवन्तीतरेतरप्रकृतयः कर्मजन्मान आत्मजन्मान आत्मैवैषां रथो भवत्यात्माश्व आत्मायुधमात्मेषव आत्मा सर्वं देवस्य.

6. ससंभ्रमोपगतैश्च कृतप्रणामैः प्रतीहारमण्डलैरुपदिश्यमानमार्गः सर्वतः प्रचलितेन च पूर्वकृतावस्थानेन दूरपर्यस्तमौलिशिथिलितचूडामणिमरीचिचुम्बितवसुधातलेन राजलोकेन प्रत्येकशः प्रतीहारनिवेद्यमानेन सादरं प्रणम्यमानः पदे-पदे चाभ्यन्तरविनिर्गताभिराचारकुशलाभिरन्तःपुरवृद्धाभिः क्रियमाणावतरणमङ्गलो भुवनान्तराणीवविविधप्राणिसहस्रसंकुलानि सप्तकक्षान्तराण्यतिक्रम्याभ्यन्तरावस्थितमनवरतशस्त्रग्रहणश्यामिकालीढकरतलैः करचरणलोचनवर्जमसितलोहजालकावृतशरीरैरालानस्तम्भैरिव गजमदपरिमललोभनिरन्तरनिलीनमधुकरपटलजटिलैः कुलक्रमागतैरुदात्तान्वयैरनुरक्तैर्महाप्राणतयातिकर्कशतया च दानवैरवाशयाकारसंभाव्यमानपराक्रमैः सर्वतः शरीररक्षाधिकारनियुक्तैः पुरुषैः परिवृतमुभयतोवारविलासिनीभिश्चानवरतमुद्धूयमानधवलचामरममलपुलिनतलशोभिनि

सुरकुञ्जरमिव मन्दाकिनीवारिणि हंसधवलशयनतले निषण्ण-
पितरमपश्यत् .

7 अविरलमिव दाम्ना पौण्डरीकेण नद्धः
स्नपित इव च दुग्धस्रोतसा निर्भरेण ।
कवलित इव कृत्स्नश्चक्षुषा स्फारितेन
प्रसभममृतमेघेनेव सान्द्रेण सिक्तः ॥

8 प्रेङ्खद्दूरिमयूखमेचकचयैरुन्मेषिचाषच्छद
च्छायासंवलितैर्विवर्तीभिरिव प्रान्तेषु पर्यावृताः ।
व्यक्ताखण्डलकार्मुका इव भवन्त्युच्चित्रचीनांशुक-
प्रस्तारस्थगिता इवोन्मुखमणिज्योतिर्विताने दिशः ॥

9 कण्डूकुड्मालितेक्षणां सहचरी दन्तस्य कोट्या लिख-
न्पर्यायव्यतिकीर्णकर्णपवनैराहादिभिर्वीजयन् ।
जग्धार्धैर्नवसल्लकीकिसलयैरस्याःस्थितिं कल्पय-
न्धन्यो वन्यमतङ्गजः परिचयप्रागल्भ्यमभ्यस्यति ॥

10. उद्दामोत्कलिकां विपाण्डुररुचं प्रारब्धजृम्भां क्षणा-
दायासं श्वसनोद्गमैरविरलैरातन्वतीमात्मनः ।
अद्योद्यानलतामिमांसमदनां नारीमिवान्यां ध्रुवं
पश्यन्कोपविपाटलद्युति मुखं देव्याः करिष्याम्यहम् ॥

11 दड्ढहजणअणुराओ लज्जा गरुई परव्वसो अप्पा ।
पिअसहि विसमं पेम्मं मरण सरणं ण वरिअमेक्कं ॥

12 पणमह चलणे इन्दस्स इन्दजालअत्ति लद्धणामस्स ।
तह जेव्व अज सम्बरस्स माआसुपरिट्ठिदजसस्स ॥
किं जप्पिदेण बहुणा ज जं हिअएण महसि सदट्ठुं ।
तं तं दंसेमि अहं गुरुणो मन्तप्पहावेण ॥

13 तस्मिन्काले जलद यदि स लब्धनिद्रासुखा स्या-

तत्रासीनः स्तनितविमुखो याममात्रं सहेथाः ।
मा भूदस्याः प्रणयिनि मयि स्वप्नलब्धे कथञ्चि-
त्सद्यः कण्ठच्युतभुजलताग्रन्थि गाढोपगूढम् ॥
14 देवं वंदे शरविशरधिं देवतासार्वभौमं
व्यासप्रष्ठा भुवनविदिता यस्य वाहाधिवाहाः ।
भूषापेटी भुवनमतलं पुष्करं पुष्पवाटी
शाटीपालाश्शतमखमुखाश्चन्दनद्रुर्मनोभूः ॥

FRIDAY, 23RD JANUARY, 2 TO 5 P.M.

TRANSLATION.

Translate into Sanskrit :—

1. In the race of the illustrious *Bhatârka* was born the illustrious *Guhasena*, all whose sins were washed away by his prostrations at the lotus-feet of his father and mother; who, ever sword in hand from his infancy, brightened the touch-stone of his courage, by splitting the temples of the rutting elephants of his foes; the rays of whose toe-nails mingled with the splendour of the crest-jewels of the enemies whom he had prostrated by the power of his courage; who made the word "king" true to its meaning by delighting the hearts of his subjects through careful observance of the conduct prescribed in all law-books; who surpassed Cupid, the moon, the king of mountains, the ocean, the preceptor of the gods, and the lord of treasures (respectively, in beauty, splendour, firmness, profundity, wisdom, and wealth; who, in his readiness to grant safety to refugees, scattered as trifles all the riches gained by his warlike deeds; who made the loving hearts of his learned friends rejoice by granting them more riches than they desired; and who appeared to be an incarnation of the delight of the vast circle of the whole world.

His son was the illustrious *Dharasêna*, all whose sins were washed away by the flood of the waters of the Gaṅgâ, in the form of the cluster of rays that issued from the toe-nails of his father; whose wealth was lived upon by hundreds of thousands of loving servants; whom attractive virtues approached impetuously, as if it were out of a desire for his beauty; who astonished all archers by his natural ability and excellent training; who preserved the meritorious gifts made by former princes; who drove away the plagues which oppressed his subjects; who demonstrated the possibility of the co-existence in *one* person of prosperity and wisdom; whose valour knew how to enjoy the prosperity of the party of his united enemies; and who obtained pure royal splendour by his valour.

His son was the illustrious *Śîlâditya*, who covered the whole horizon with the multitude of his wonderful virtues, which made the whole world rejoice; who carried a heavy burden of serious projects on the pedestal of his shoulders, the splendour of which was increased by the flashing of his sword, that possessed the lustre of victory on hundreds of battles; who was easily pleased by everybody even through a trifling *bon mot*, although his mind was refined by the study of the higher and lower branches of all sciences; whose noble nature was well shown by his extremely virtuous conduct, although the profundity of his heart was unfathomable by the whole world; who acquired great fame by purifying the deserted path of the princes of the Golden Age; and whose second name *Dharmâdityа* arose from the fact that his enjoyment of an abundance of wealth was made still more resplendent by his never obstructing the law.

His younger brother was the illustrious *Kharagraha*, whose excellent character was not troubled by fatigue or love of pleasure, while, like a noble bullock, he bore the royal dignity, which his elder brother, who resembled the elder brother of Upendra, had most respectfully placed on his shoulders; whose mind was untouched by the feeling of contempt of others or of pride, though his foot-stool was covered with the splendour of the crest-jewels of hundreds of princes, whom he had subdued by his great power; towards whom even those enemies, whose manliness and pride were notorious, found no other means of action than submission alone; who forcibly stopped all the coquettish ways of the Iron Age by the collection of his pure virtues, which gave delight to the whole world; whose noble heart was untouched by all the sins which overcome low people; and who proclaimed his obtaining the first rank among heroes by wooing to himself the prosperity of a crowd of hostile princes by his famous manliness and extreme skill in weapons.

II. 1. They tell us of an Indian tree
Which, howsoe'er the sun and sky
May tempt its boughs to wander free
And shoot and blossom, wide and high,
Far better loves to bend its arms
Downward again to that dear earth
From which the life, that fills and warms
Its grateful being, first had birth.
'Tis thus, though moved by flattering friends,
And fed with fame (*if* fame it be),
This heart, my own dear mother! bends,
With love's true instinct, back to thee!

2. Viśvâmitra the magician,
By his spells and incantations,
Up to Indra's realms elysian
Raised Triśaṅku, king of nations.
Indra and the gods offended
Hurled him downwards, and descending

In the air he hung suspended,
With these equal powers contending.
Thus by aspirations lifted,
By misgivings downward driven,
Human hearts are tossed and drifted
Midway between earth and heaven.

SATURDAY, 24TH JANUARY, 10 A.M. TO 1 P.M.

HISTORY OF SANSKRIT LITERATURE.

I. Give a succinct account of the Saṁhitās, Brāhmaṇas, and Sūtras of the Yajurvēda as to their arrangement, composition, and age.

II. Discuss the question of the antiquity of the Mahābhārata and Rāmāyaṇa, and state whether they are to be considered to have a historical foundation or not.

III In what consists the importance of the Rājataraṅgiṇī and Kathāsaritsāgara? Mention also two other Sanskrit works of a similar character.

IV. Point out the difference between the Sāṅkhya and Yōga systems, and mention the most important works concerning these two philosophies.

V. Give an account of the grammatical terminology of Pāṇini.

VI. 1. What is the connection between the Dharmasūtras and the Gṛhyasūtras?

2. Did a law-code common to India ever prevail in this country? Give reason for your opinion.

B.L. DEGREE EXAMINATION, 1891.

MONDAY, 19TH JANUARY, 10 A.M. TO 1 P.M.

LAW OF EVIDENCE.

I. Describe and explain the scheme of the Indian Evidence Act.

II. "Facts are irrelevant unless they can be shown to stand in the relation of cause or in the relation of effect to facts in issue." Explain and criticise this proposition.

III. State and discuss the special provisions of the Indian Evidence Act as to the burden of proof.

IV. Discuss the rules in the Indian Evidence Act as to estoppel, with reference to the classification of estoppels ordinarily adopted by lawyers in England.

V. What are the special rules of evidence contained in the Criminal Procedure Code? Compare them with the provisions of the Indian Evidence Act relating to the same topics.

VI. State your opinion, tabulating the arguments for and against it, on the following questions:—

1. A is being tried for murdering B. Shortly before B died, he said, in answer to questions by a magistrate, that he had been

wounded by A. The magistrate wrote down his questions and B's answers, but A was not present. Can the writing be used in A's trial ?

2. A is being tried for murdering B. Shortly before B died while he was still conscious though unable to speak, questions were put to him by his friends as to the circumstances under which certain injuries were inflicted on him, and he replied to these questions by signs. Can evidence be given in A's trial of the questions put to B and of the signs B made in reply ?

VII. Discuss and state your opinion on the following cases :—

1. In a suit by C against A and B to recover the principal and interest due on a bond, it was alleged that A had executed the bond in question in favour of B to secure a debt of Rs. 1000, that in execution of a decree against B his interest in the secured debt had been attached and brought to sale, and that C had purchased it. A denied the execution of the bond, but C served B with a notice to produce it, and on his failure to do so tendered secondary evidence of its contents.

2 C lent Rs. 1000 to A and B and they gave him a promissory note for the amount. In a suit by C against A and B to recover the Rs. 1000, it appeared that the promissory note was improperly stamped and so inadmissible in evidence.

3. A being indebted to C delivered to him the title deeds of a house in Madras (where mortgages by deposit of title deeds are recognised) and it was arranged that a mortgage of the house should be duly executed by A to C. The mortgage deed was executed, but, in a suit by C against A to enforce his rights as mortgagee, it appeared that the deed had not been duly stamped or registered.

VIII. Discuss and state your opinion on the following cases :—

1. In an ejectment suit the plaintiff alleged that the defendant would neither surrender the land nor pay rent for it ; and tendered in evidence, to prove that the land was not rent-free, a decree obtained against the defendant by a purchaser at a court-sale, declaring a certain sum to be due from the land as rent.

2. In a suit in 1887 between the proprietors of two estates a question was put in issue relating to a right claimed by the plaintiff over a water course which passed through the defendant's land. It was sought to put in evidence a deed of compromise entered into between the predecessor in title of the plaintiff and certain tenants of the predecessor in title of the defendant, at the termination of criminal proceedings which the former had instituted in 1856.

3. In a suit for rent, of which the amount was disputed by the defendant, the plaintiff put in certain entries made by the defendant's late partner in the partnership books ; and to prove the *bona fides* of these entries, the plaintiff tendered in evidence a judgment passed against the defendant in a suit between him and his late partner, in which the defendant had called these entries in question.

MONDAY, 19TH JANUARY, 2 TO 5 P.M.

CONTRACTS, INCLUDING NEGOTIABLE INSTRUMENTS.

I. A proposes to sell a cow to B, for a price to be fixed by C. B accepts the proposal. What are the respective rights of A and B supposing (1) C died some time before the agreement, the fact not being known to either A or B at the time of the agreement; (2) C agreed to fix the price but died the day after the agreement without fixing the price; (3) C refused to fix the price being unwilling to take the trouble of doing it; (4) C refused to fix the price, being in collusion with B; (5) C, being in collusion with A, fixed the price, which B refused to pay.

II. 1. A executes a bond for Rs. 100 after attaining age, for goods, not being necessaries, supplied to him by B while he was under age. Is the bond valid? Give your reasons for the answer.

2 A, long after attaining age, ratifies an agreement entered into by him with B, while he was under age. Is the subsequent ratification valid? Give your reasons for the answer.

3. A falls accidentally into a well. B, who is by, saves A from drowning. C, a stranger who happened to be present, subsequently promises to pay B Rs. 15 for the trouble he took in saving A from drowning State, with reasons, if B can sue C for the money.

4. A makes a note in favour of B for necessaries supplied to A by B, A being a minor. State, with reasons, if B can sue A on the note.

III. 1. Compare the English law and the provisions of the Indian Contract Act regarding cases where a party to a contract refuses to perform or disables himself from performing his promise before the time fixed for performance arrives.

2. How should damages be assessed in such cases under the Indian Contract Act?

IV. 1. A and B agree to walk a match, and each deposits Rs. 50 with C, to be paid to the winner. A won the match, but B gives notice to C not to pay the money to A. C pays the money to A in spite of the notice. Will a suit lie against C, at the instance of B, for the Rs. 50 deposited by him? Give your reasons in support of the answer. Supposing no such notice was given by B, and C refused to pay the amount to A, state, with reasons, if A can sue C for the whole or any portion of the amount held in deposit by him.

2. A agrees to supply B, and none else, all the oil manufactured by A at his factory, at a specified rate, and B agrees to purchase the same. Is the agreement valid? Give your reasons for the answer.

V. State the limitations to the rule that the whole of the promise and the whole of the consideration should be legal.

VI. (1) Compare (*a*) a bill of lading and a negotiable instrument, (*b*) a bill of exchange and a cheque. (2) In a bill of exchange which is the party that is in the position of a principal debtor, and which is in the position of a surety? What difference will it make if the bill is an accommodation bill?

VII. 1. What are the rights and liabilities of a finder of goods under the Indian Contract Act?

2. A lends his jewels to B gratuitously, for B's use on the occasion of his marriage. It is also agreed that B need not return the jewels before the marriage is celebrated on a specified day, even though he may be called upon to do so. On the day of marriage, but before it is celebrated, A demands the jewels. State the rights and liabilities of A and B under the Indian Contract Act.

VIII. 1. Under the Indian Contract Act, compare the circumstances in which a person in possession of any goods, but not being the owner thereof, may transfer their ownership so as to give a valid title to another, and the circumstances in which a person in possession of any goods can make a valid pledge of them, even though he may not be authorized to do so.

2. In what circumstances, if at all, is a sub-agent responsible to the principal?

IX. 1. A minor is admitted to the benefits of a partnership. Can his general property be made liable to the obligations of the firm? Can he, on attaining age, repudiate the partnership and claim back the amount he contributed?

2. A borrows money of B, with the intention of paying bribes to a Tahsildar, and B is aware of A's intention when he lent the money. Can B sue for the money?

3. A borrows money of B, with the intention of paying certain bets, B being aware of A's intention when he lent the money. Can B recover it back?

4 A contracts to let rooms to B. Afterwards A discovers that the rooms are to be used for the purpose of delivering speeches of a seditious character and refuses to let them. Can he do so?

5. One of the creditors refused to accept a composition deed unless he was paid something more than what was intended to be paid to the other creditors. The debtor paid the additional sum. State whether a suit will lie for the recovery of the additional sum at the instance of (*a*) the other creditors, (*b*) the debtor.

X. Compare the English Law and the provisions of the Indian Contract Act regarding the rights of the seller to stop the goods in transit.

TUESDAY, 20TH JANUARY, 10 A.M. TO 1 P.M.

TORTS.

I. Classify torts according to their nature. Give an instance of each class and show why such classification is of importance.

II. What was meant by "Merger of tort in Felony"?

What various views have been held as to this doctrine? What is the present state of the law (1) in England, (2) in India?

III. Under what circumstances will the plea of Act of State be a good answer to a suit for damages for an act primâ facie tortious? Mention any leading cases on the subject (1) in England, (2) in India.

IV. Under what circumstances will an action lie for procuring a third person to break his contract with the plaintiff? What objection exists to allowing such an action? Can it be maintained in India?

V. In what particulars does slander differ from libel? How far has the English law been adopted or rejected by the Courts or Legislature of India.

VI How far is a minor liable for a tort?

VII. Under what circumstances will plea of self-defence be an answer to an action for assault?

VIII. How far is force justifiable (1) to prevent, (2) to remedy trespass to land?

IX. What is meant by prospective damages? When and why should they be claimed in actions for trespass to land?

X. What kind of damages are allowed in actions for seduction and on what grounds?

XI. In what cases may an action be brought in England against the representatives of a deceased tort feasor?

XII In what cases may the executor of a deceased person sue for torts done to the deceased in India?

TUESDAY, 20TH JANUARY, 2 TO 5 P.M.

CRIMINAL LAW.

I. Name the offences in which (1) a sentence of death must be passed, (2) a sentence of forfeiture must be passed, (3) the largest term of transportation short of transportation for life can be passed, (4) a minimum term of imprisonment is fixed.

II. In what cases and subject to what restrictions does the right of private defence of property extend to the causing of death?

III. A asks B to commit theft of a box in M's house at midday when he will be away. B consults C, D, E, F, and they all agree to commit the theft at night. They enter the house at night through an open window. B takes the box. C takes a watch from an adjoining room, and just then M appears and presents a loaded revolver at D, who strikes him with a club and breaks his arm As they all go out of the house, E gives a blow to a watchman sleeping in the verandah, who dies of the wound. Name the offences committed by A, B, C, D, E, F, and state for which acts of any one of them the others are responsible.

IV. Is compulsion a justification for committing an offence? If so, in what cases and subject to what qualifications? Does the English law presume compulsion in any cases; if so which?

V. Explain the difference between rashness and negligence, and name the offences in which one or the other forms an element.

VI. Define theft and larceny under English law, and point out the difference between them, as also between theft and extortion. Illustrate your answer. State whether theft or any other offence is committed in the following:—

1. A, intending to commit theft, pulls a string of gold beads

round a lady's neck—the string breaks and falls with the beads into the folds of her dress.

2. A goes on his neighbour's lands without his permission, shoots and takes away a hare.

VII. What is the difference between kidnapping and abduction ?

A meets a girl eleven years old in a hut in her father's field. He induces her to stay there with him for two days, instead of returning to her father's house as usual, and has sexual intercourse with her. What offence has he committed ?

VIII. Point out any difference between murder under the Code and English law. When is homicide justifiable ?

A and B, two officers, have a quarrel and arrange to fight a duel. C and D agree to act as seconds of A and B, respectively. They all repair to a field where the duel is fought, and A is killed. What offences have B, C, and D committed ?

IX. What is the offence of defamation, and how does it differ from the civil wrong ? Give the reason for the difference. In what cases is the truth of the statement a valid defence to a criminal charge of defamation ?

X Explain the difference between a mere preparation and an attempt to commit an offence. Is there an attempt to commit an offence in the following cases :—

1. A, intending to commit suicide by throwing herself into a well, runs towards a well for the purpose, and is arrested when close to the well

2. A, intending to set fire to a hay stack, goes close to it and lights a match, but finding he was observed puts out the fire.

3. A, intending to commit theft of B's purse puts his hand into his pocket, but finds it empty

4. A, intending to put poison into B's coffee, by mistake puts some sugar.

XI. Are there any offences the attempt to commit which is not an offence ? What offences if any, are committed in the following cases :—

1. A goes by night to commit theft in B's house He finds a brass vessel in the verandah which he takes, puts his head in through an open window, and finding B seated, does not enter the house. Being observed and pursued, to escape being caught, he runs through C's compound, and conceals himself in a godown used for the custody of property.

2. A gives to B, a friend of a Collector, Rs. 100, in order that B may use his personal influence with the Collector, and procure an appointment in the Collector's office for A.

3. A sees B commit theft and arrests him, and B escapes from his custody.

4. A, a sailor in an English ship, having committed murder on the high seas, lands in Madras ; B, a police officer, whose duty it is to arrest him, intentionally omits to do so.

5. A goes to a new place and assumes a new name. He gives

a cheque for money due by him, signed in his assumed name, on a banker. It is found that neither A nor any one with that assumed name had any account with the banker.

6. A money order in favor of A. B. is received by a postman; there are two persons of that name; the postman takes it to the wrong person, who, knowing that the money is not for him, signs his name in the receipt and receives the money.

WEDNESDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.
PROCEDURE INCLUDING LIMITATION.

I. What steps can a suitor take to secure the attendance of an unwilling witness?

II. (1) Under what circumstances may the Court correct an award, (2) remit it to the arbitrators, (3) set it aside?

III. What courses are open to a person who is aggrieved by the malversation of the property of a trust in which he is interested?

IV. When may a plaintiff refuse to answer interrogatories delivered to him by the defendant?

V. Draw plaints for A under the following circumstances, and consider whether the claim in each case is barred by limitation, and also who should be joined as defendants:—

1. A lent jewels to B in 1884; B has refused to return them, and a now desires to recover them by suit.

2. B mortgaged his land successively to C for Rs. 1,000, to A for Rs. 800, to D for Rs. 600; A now desires to realize his security.

3. B, C, and D, being tenants in common of a piece of land, each contracted in 1886 to sell his share to A, who now desires to make good his claim on the whole.

Draw the Decree in case (2) on the assumption that the plaintiff succeeds.

VI. State and discuss the rules in the Limitation Act as to the right of a defendant to plead a foreign rule of limitation in a suit in British India.

VII What is the procedure that a judge may adopt in a case of contempt of court?

VIII. What powers can a sessions judge exercise as a court of revision?

IX. When may an unconvicted person be required to give securityfor good behaviour?

WEDNESDAY, 21ST JANUARY, 2 TO 5 P.M.
THEORY AND LAW OF PROPERTY.

I. Of what does the Common Law of England consist? What are the rules by which the legality of a custom is to be tested?

II. State the principal rules relating to the interpretation of statutes?

III. Show how real property differs from personal (1) in charac-

ter, (2) in the interest which can be held therein, (3) in devolution, (4) in limitation, mentioning any exceptions to the rule on each point.

IV. What were the principal lay tenures up to the reign of Charles II. ? Mention the chief incidents of each.

V. Mention the different kinds (1) of estates of freehold, (2) of estates less than freehold.

VI. Give a short account of the origin of estates in fee tail. State shortly the effect of the decision in Taltarum's case : and point out how the immunities of owners of estates-tail were subsequently abridged by statute.

VII. Define joint tenancy, tenancy in common, coparcenery ; and show how they differ from each other.

VIII What was the origin of Uses ? How were they created ? What led to the statute of Uses ? What were the chief results thereof ?

IX. What were the principal provisions of the Mortmain Act, 9 Geo. II. C 36 ?

X. What were the principal changes in the law introduced in 1837 by the New Wills Act ?

THURSDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

EQUITY JURISPRUDENCE.

I. Explain the following expressions and write short notes on them :—(1) restraint upon anticipation, (2) to put himself *in loco parentis*, (3) opening the foreclosure, (4) executor's retainer, (5) postobit bonds, (6) redeem up and foreclose down.

II. Note clearly the distinction recognized in equity between executory trusts created under marriage articles and those created under wills (1) with reference to their interpretation, (2) with reference to the mode of carrying them into execution. Explain the principles upon which the distinction is based.

III. How does the fact of the settlor being indebted at the time of the execution of a voluntary conveyance affect its validity ? In what circumstances can the presumption of fraudulent intent on the part of the settlor be raised so as to favour the claims of (1) a creditor whose claims had accrued previous to the settlement, (2) a creditor whose claims accrued since the settlement ?

IV. 1. When and under what circumstances will a power of appointment be construed as a trust, and when not ?

2. To what extent may a joint power be executed by the survivor?

V. 1. What, briefly, is the distinction between satisfaction and performance ?

2. State whether there is a satisfaction of the debt by the legacy (*a*) when the will was executed previous to the creation of the debt, (*b*) when the debt was contracted contemporaneously with the making of the will, supposing that the legacy was a sum less than the debt.

3. Supposing in (*a*) the legacy was a sum greater than the debt, how will it affect the answer ?

VI. 1. A devises his real estate specifically to B for life with re-

mainders over, and the residue of his personal estate to C. The testator subsequently enters into a contract with D, giving him an option of purchase over part of the said real estate. Supposing the option was exercised by D after the testator's death, when does the conversion take place, and who is entitled to the purchase money? Give reasons for the answer.

2. Supposing there is a partial failure of the purposes for which conversion has been directed, what distinction does the nature of the instrument directing the conversion make and why?

VII. Explain what is commonly called (1) the rule in Shelley's case, (2) the rule in Chancey's case, (3) the rule in exparte Waring, (4) the rule in Dearle *v.* Hall.

VIII. 1. Explain what is meant by marshalling securities.

2. State the provisions of the Transfer of Property Act regarding marshalling securities and the doctrine of contribution in the interest of the owners of mortgaged estates.

3. In what circumstance will a suit for a declaration of status or right lie under the Specific Relief Act?

IX. 1. A bequeaths his shares in a company to B for life with remainder to C. The Company declared a bonus in respect of those shares. Is the bonus to be deemed part of the general estate, or can it be claimed by the legatee in the following cases:—(*a*) when the bonus was paid before the testator's death; (*b*) when the bonus was payable before the testator's death but was actually paid after the testator's death; (*c*) when the bonus was payable after testator's death but was declared before his death; (*d*) when the bonus was declared after the testator's death Supposing the legatee is entitled to it, how is the question to be settled as between the tenant for life and the remainder man?

2. Will a court of Equity decree specific performance in the following cases; give reasons:—(*a*) contract to transfer the good will of a business; (*b*) contract to sell shares in a Railway Company; (*c*) contract to sell Government Promissory notes.

THURSDAY, 22ND JANUARY, 2 TO 5 P.M.

HINDU AND MUHAMMADAN LAW.

I. Up to what period does minority extend according to Hindu and Muhammadan law, and who, according to those laws, have the preferential right to the custody of the minors?

Does the Indian Majority Act extend the age of minority? If so, to what age? A, a Hindu father and B, a Hindu widow, leaving minor children, become Muhammadans. Does either forfeit his or her right to the custody of the minors?

II. Describe clearly who may be members of a Hindu coparcenary. What are the rights of each coparcener in the joint property in his life time, and what becomes of those rights on his death? Can a creditor of a coparcener after his death proceed against his share in the joint property? Is the will of a coparcener bequeathing his share in the joint property valid?

III. What are the powers of the father of an undivided Hindu family to alienate, except for debts, ancestral and self-acquired movable and immovable property?

IV. Define 'self-acquired' property, and state whether the property is self-acquired or not in the following cases:—

(1) A receives an English education at the family expense, and afterwards acquires wealth as a lawyer. (2) A is trained as a singer at the family expense, and afterwards acquires wealth by singing. (3) A and B have property distributed to them by their father. (4) A inherits property from his mother.

V. A Hindu family consists of A, the father and four sons B, C, D, E, the first being an adopted son. B has a son F. C has two sons G and H, the former being an adopted son. D has a grandson K, the son being dead. E has a great-grandson L, the son and grandson being dead. Who have a right to claim partition (1) when all are living; (2) when A alone is dead; (3) when A is living and D and E alone are dead. Suppose A, B, C, D, E, die in the order named, and the other members divide: ascertain the share of each.

VI. Describe the nature of the estate which a widow takes from her husband. Can she alienate the property under any circumstances? Does a female succeeding to a male ever take an absolute estate?

VII State whether the adoption is valid in any of the following cases; when the adoption is made (1) by a minor, (2) by one who has a great-grandson living but not son or grandson, (3) by one who was born blind; (4) when the person adopted is an only son, (5) a sister's son, (6) one on whom upanayanum has been performed; (7) where A authorized his wife to adopt B and she adopts C as B had died; (8) where A died leaving a widow, a son by her B, and a son C, by another wife deceased, one grandson D of a divided brother, and ten great-grandsons of two other divided brothers; subsequently B and C die in the order named, and the widow adopts a boy with the consent of the ten great-grandsons of A's brothers, D withholding his consent from improper motives.

VIII. Distinguish between Sagotra sapindas and Bhinnagotra sapindas, and give the rules of succession as regards the former under the Mitakshara.

IX. Which of the persons named below are heirs under Mitakshara or Daya Bhaga? Arrange them in the order in which they will succeed under either law:—a great-grandfather, a great-grandmother, a great-grandfather's daughter's son, a great-grandfather's son's daughter's son, a father's sister's son, a mother's sister's son, a mother's brother's son, a brother, a sister, a sister's son.

X. What are the requisites of a valid marriage according to Muhammadan law? Can a valid marriage take place (1) with a girl three years old with her guardian's consent, (2) with a girl who is insane?

XI. Explain what is meant by legal sharers, residuaries, and distant kindred. What are the shares of the legal sharers?

XII. A dies possessed of Rs. 10,000, leaving behind him a widow, a mother, a son, and a brother. Rs. 2,000 are due to the widow as dower; Rs 1.000 are due to creditors; A gives three legacies of Rs. 1,000

each to the son, brother, and a stranger. Subsequently the son dies, and the property, is then divided. What will be the share of each?

FRIDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

JURISPRUDENCE.

I Explain the following sentence:—Every right has its correlative duty, but every duty, has not its correlative right.

II Explain the terms 'Conventional and ordained unwritten laws,' and give an example each.

III. On what grounds is it said that judicial decisions are not the sources of law? Can such doctrine be disproved in English law?

IV. What are the principles according to which the question whether a judicial decision is to be followed or not is to be decided?

V. On what principles does the doctrine respecting the legal consequences of fraud and negligence rest?

VI. Explain the following phrases:—(1) Object of a duty, (2) Subject of a right, (3) Object of a transaction, (4) A free but not imputable transaction, (5) Act of God.

VII. Define *cognatio* and *agnatio*; show how the mode of computing relationship differs according to Canon and Roman law; and point out which method is adopted in English law in ascertaining the next of kin

VIII. What is affinity? How does the Roman differ from the Canon law as to affinity?

IX. Would illicit intercourse with the mother bar a subsequent marriage with her daughter, in English law? Can an Englishman marry his deceased wife's illegitimate sister's daughter? Give reasons for your answers.

X. How far are the following maxims true:—(1) Cessante ratione legis cessat lex ipsa, (2) Communis error facit jus, (3) Lex non cogit ad impossibilia.

XI. What are the general principles with respect to ignorance and mistake adopted by Savigny?

M.L. DEGREE EXAMINATION, 1891.

MONDAY, 19TH JANUARY, 10 A.M. TO 1 P.M.

JURISPRUDENCE.

I. 1. Explain clearly what is meant by the expressions *Positive Law* and *Positive Morality*.

2 What, briefly, are the reasons given by Austin for the use of the two expressions?

3. What is the relation of the science of Ethics to Positive Law and Positive Morality?

II 1. What, according to Austin, are the essentials of a law, properly so-called? Examine whether what is usually called the International Law contains such essentials.

2. What is the meaning attached to 'Justice' when it is opposed to 'Law'?

3. Justify Hobbes' proposition: "No law can be unjust."

4. Can a sovereign Government have any legal rights against its subjects? Give your reasons.

III. 1. What did the Roman Lawyers understand by the term 'Person' In what sense did the modern Civilians use it? Briefly explain how the modern Civilians came to understand the term in the way they did

2. How many kinds of fictitious persons are there? Explain and illustrate them by examples.

IV. 1. Distinguish 'Things' from 'Persons' and 'Facts or Events.'

2. What is the distinction between *Jus rerum* and *Jus Personarum*? How did Blackstone understand the expressions? Criticise his view.

V. 1. Define (*a*) Act, (*b*) Forbearance, (*c*) Ownership or property

2. State the various meanings of the term Property.

VI. Distinguish:—(1) Intention from Will, (2) Compassing from Intention, (3) Dominium from Servitude, (4) Forbearance from Omission, (5) *Ratio decidendi* from *Ratio legis*, (6) Obligations from duties under the Roman Law, (7) Contingent interest from vested interest.

VII. 1. Is intention or negligence an essential ingredient in every breach of duty? What is the law of England on the point and how does Austin criticise it?

2. Is negligence of itself injury or wrong under any recognized system of law?

VIII. 1. Examine if there be any system of law where a civil action is given to the injured party in order that a wrong-doer may be visited with punishment, and not in order that the injury may be redressed.

2. What, according to Austin, is the natural or customary order in which the law of any country arises?

3. What is Bentham's objection to judiciary law? How does Austin meet it?

IX. 1. What means does Bentham suggest for preventing and suppressing the offences of illegal detention and deportation?

2. To what classes of offences, according to Bentham, may prescription as regards punishment be extended? Give his reasons.

3. What meaning did Bentham attach to the expression Physical Sanction? Criticise it.

MONDAY, 19TH JANUARY, 2 TO 5 P.M.

CONTRACTS, NEGOTIABLE INSTRUMENTS, AND TORTS.

1 A proposes by letter to sell his house to B for a specified price B first posts a letter accepting the proposal B then sends a deferred telegram revoking his acceptance Subsequently B again changes his mind and sends an urgent telegram revoking the

deferred telegram and confirming the letter of acceptance. Discuss whether A can refuse to sell the house supposing the three communications by B reached him in the following order of time :—1. (*a*) letter, (*b*) urgent telegram, (*c*) deferred telegram; 2. (*a*) deferred telegram, (*b*) urgent telegram, (c) letter; 3. (*a*) urgent telegram, (*b*) letter, (*c*) deferred telegram; 4. all the three simultaneously.

II. Examine the following proposition and comment upon it :—'In order that a promise should be a good consideration, the promise should be a promise which the promisor has the means of performing.' State also how this proposition should be qualified and to what cases it should be limited.

III. Regarding the capacities of corporations, discuss whether the act of incorporation is to be regarded as conferring unlimited powers except where the contrary can be shown; or whether alleged corporate powers are not rather to be denied, unless they can shown to have been conferred either expressly or by necessary implication. Which of the two views are you inclined to adopt, and why?

IV. 1. Is a corporation liable for torts of the corporators? If so, in what circumstances and why? If not, why not?

2. Is a corporation liable for torts to its own corporators?

3. The directors of a company fraudulently induce a person to take shares in the company. Can the shareholder so defrauded bring an action of deceit against the company? Give your reasons for the answer.

V. 1. A enters into a contract with B, who neither knows nor has reason to believe that A is an agent The principal discloses himself before the contract is fulfilled. Can B refuse to fulfil the contract and claim damages, if he can show that had he known that A was not the principal he would not have entered into the contract?

2. A, who owes 500 Rs. to B, sells 1000 Rs. worth of rice to B. A is acting as agent for C in the transaction, but B has no knowledge of it, nor has he reasonable grounds to suspect that such was the case. Before the rice is delivered, C discloses himself. Can B compel C to deliver the rice on payment of 500 Rs? Give your reasons for the answer.

VI. 1. In what cases can money paid under a void agreement be recovered back?

2. A pays a certain sum to B under a marriage brokage agreement. Can A recover it back?

3. A and B enter into a contract for the benefit of C. It is also provided in the contract that C shall have the right to sue State, with reasons, if C can sue to enforce the performance of the contract?

VII. 1. In what cases can a firm sue one of its partners for an account without praying for a dissolution of the partnership?

2. In what circumstances, if at all, will a principal be discharged from liability to a party contracting with the agent, by payment to his own agent?

VIII. State the principles laid down in each of the following cases:—(1) Cutter *v.* Powell (2) Paterson *v.* Gandasequi (3) Mostyn *v.* Fabrigas.

IX. 1. What are the exceptions to the rule that an employer is not liable for torts arising out of the negligence of an independent contractor?

2 Is slander imputing unchastity to a woman actionable in India, without proof of special damage?

3. Is there a publication in law when a husband communicates defamatory matter to his wife regarding a third person? Is there such publication when a third person communicates defamatory matter to the husband concerning the wife? Give your reasons for the answer.

X. 1. A promises to pay B or order the sum of Rs. 500. B adds "on demand," without being authorized to do so by A. How will the alteration affect the liability of A?

2. A, the holder of a negotiable instrument indorsed in blank by B, writes above B's signature "Pay C or order." Can C, sue A, supposing the amount was not paid by the maker or B?

3. A, the payee of a note, indorses it in favour of B and dies before delivery. C, the legal representative of A, delivers the note to B. Can B sue on the note?

4. A, the payee of a note, indorses it to B thus—"Pay B." Can B, indorse and negotiate the note?

Tuesday, 20th January, 10 a.m. to 1 p.m.

HINDU LAW.

(Candidates are required to give reasons and cite authorities in support of their views whenever practicable.)

I. State the various laws under which the various British Courts in the Madras Presidency have been and are administering Hindu Law to the Hindus; also what parts of Hindu Law are so administered.

II. In what schools of law are the following works received as special authority? State when and by whom they were written:—Dayabhaga, Dayatativa, Dayakrama Sangraha, Mitakshara, Smriti Chandrika, Viramitrodaya, Vivada Chintamani, Vyavahara Mayuka.

III. What are the requisites of valid custom or usage when it is at variance with the ordinary law? Does the Hindu Law recognize the binding force of such customs. Cite cases in which the Privy Council have recognized local and family custom.

IV. What are the prohibited degrees, according to Hindu Law, within which a man cannot marry. Is the marriage of a lunatic or a minor without the consent of the guardian binding? Who, in the absence of the father, are enabled to give away a minor girl in marriage.

V. Summarize the provisions of the Hindu Widows Remarriage Act.

A has a wife B, and two sons by her C and D. A, C, and D divide their ancestral property, and each subsequently acquires separate property A and C die in the order named, after which B re-marries, and subsequently D dies. Does B forfeit the property she inherited from A and C? Is she entitled to succeed to the property of D?

A, a Hindu governed by the Bengal school of law, has two daughters, B who has a son, and C who becomes a childless widow and then re-marries and has a son. A dies leaving property. Can B and C succeed to it? Who will succeed after the death of B and C?

VI. Quote the text of Vasishtha regarding the power of a widow to adopt; how have the different schools of law interpreted it?

Where the consent of kinsmen is necessary for the adoption by a widow, what should be the nature of such consent? State the law as laid down by the Privy Council in Raghunadha *v.* Brozokishro and Kurunabdhi *v.* Ratnamaiyar.

VII. What powers of alienation does a widow possess over the property inherited from her husband and over the accumulations of such property? When is a reversioner bound by decrees obtained against the widow or by sales in execution of such decrees. Can a widow acknowledge a barred debt of her husband so as to make it binding on the reversioner?

VIII. In execution of a money decree against the father the joint ancestral property is attached and sold. Under what circumstances will be the purchaser take (1) only the interest of the father, (2) the entire property including the interest of the sons? When the whole interest has passed to the purchaser, could the sons in a suit brought for the purpose recover their share of the property by showing that the father's debt was for an immoral purpose?

IX Explain clearly who are Sapindas according to the Benares and Bengal schools of law. State the rules by which the precedence of the several heirs under the latter school is fixed; and enumerate in their order all the heirs who would succeed before the paternal uncle.

X. 1. A, having a son B, born blind, adopts a son C, and has subsequently born to him two sons D and E. They divide the family ancestral property. What will be the share of each? After division B has a son born F. Can F claim a share in the property. A dies after this; who will succeed to his property?

2. A and B are two undivided Hindu brothers, having ancestral property, B has a son C. In 1860 B becomes a Christian, and two more sons D and E are born to him in 1864 and 1867, respectively. In 1868 A dies, leaving a widow, and soon after B dies leaving the above named sons, and a widow and daughter; the ancestral property is then divided. What shares will each get?

TUESDAY, 20TH JANUARY, 2 TO 5 P.M.

EVIDENCE AND CRIMINAL LAW.

I. State the provisions of the Penal Code as to offences committed out of British India and punishable under that Code.

Are there any offences punishable under that Code irrespective of the place where and the person by whom they are committed? If so, name them.

II. Give a short account of the rise and growth of the Admiral's jurisdiction in criminal cases in England. When and on what Courts

in India was that jurisdiction first conferred, and what Courts possess it now?

A, B, C, a native of British India, a European British subject, and a French subject, respectively, commit murder on board a British vessel on the high seas, and afterwards arrive in Madras. Are any of them liable to be tried in Madras, if so under what law are they punishable? What difference will it make if they committed murder on board a French vessel on the high seas, or a French man-of-war while lying in the Madras harbour?

III. Under what circumstances is intoxication a valid defence for committing an offence? Will it be available in the following cases:—

1. A takes an intoxicating wine not knowing that it has an intoxicating effect; A gets intoxicated and commits an offence

2 A voluntarily takes an intoxicating wine and, while intoxicated, receives stolen property, which he would have known to be stolen had he been sober.

IV. A marries B, who in 1880 sails for England in a ship which is wrecked, and B and some others who were put into a boat have never been heard of since by any of those who would naturally have heard of them. A, believing that B is dead, marries C in 1886, having informed her of all the circumstances regarding B. Have A or C committed any offence? Would it make any difference if the prosecution could prove that, on the date of the second marriage, B was in fact alive in Australia, although A and C did not know it; or, if the prosecution took place in 1890, that B has not been heard of from 1880 up to that time?

V. Define giving false evidence in a judicial proceeding, and point out the difference between it and fabricating false evidence under the Code and perjury in English Law.

What offences, if any, are committed in the following cases:—

1. A is examined as a witness in a civil suit before the District Munsif and states what is false, but it afterwards turned out that the subject matter of the suit was beyond the Munsif's jurisdiction and he could not entertain it.

2. A states what is not true before the station house officer, who is enquiring under section 161 of the Criminal Procedure Code.

3 A swears falsely in an affidavit, which is intended to be used in a certain civil suit, but it is not filed.

VI. A, B, and C go armed with dangerous weapons to commit robbery in M's house. On the way they compel E, by threats of instant death, to join them in their robbery. He does so, in consequence of such threats. While the robbery is going on, M surprises them, and presents his loaded revolver at E, who, to save himself from being shot, strikes M down dead. A kills a servant who was sleeping in a different part of the house. What offences have A, B, and C committed?

VII. What are the duties of a judge in a trial by jury? Is it the duty of the judge or jury to decide the following matters:—probable cause, reasonable time, reasonable notice to quit, due diligence, gross negligence?

VIII. State the old English law regarding the testimony of children and the law as it is at present, noticing the gradual changes that were made in it, and citing the leading case. Does the law in India differ in any respect?

IX Define rebuttable and irrebuttable presumptions; how does the latter differ from a fiction of law? What are the rules laid down for guidance where presumptions conflict?

X. Does the rule of law against disclosing a professional communications between a client and his legal adviser apply to any other cases? Cite the leading cases on the point.

XI. Is character relevant in civil or criminal cases; if so, under what circumstances?

XII. State whether, under English Law or the Indian Evidence Act, the following evidence tendered is receivable:—

1. In a trial of A for conspiracy, a letter written by B, one of the conspirators, to a third party, giving an account of the proceedings of a secret society to which both belonged, is tendered.

2. A is tried for committing rape on B, who died of the injuries she received; B's dying declaration as to the cause of her death is tendered.

3. Where a question in issue was whether A was the legitimate son of B, the declaration of C deceased, who was a servant of B, that B was married to A's mother, is tendered.

4 A makes a complaint in writing against B of an offence, soon after it was committed At the trial of B for that offence, the complaint is tendered.

WEDNESDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

LAW OF TRANSFER OF PROPERTY.

I. State the main differences between the law in England and the provisions of the transfer of Property Act with regard to the powers of a settlor to tie up the property which is the subject of the settlement

II. Is there any difference between the English rules of equity and the provisions of the Indian Succession Act as to election?

By a marriage settlement a fund was settled upon the wife for life with restraint on anticipation, and the settlement contained a covenant by the wife (then a minor) to settle future-acquired property A sum of money was afterwards bequeathed to her which she did not bring into settlement. Discuss the question whether she is put to her election between the settled fund and the bequest.

III. An Englishman in India made a will, by which he bequeathed Rupees 20,000 "to be divided equally between the five sons of A B." and provided that all his landed property "be equally divided between my three sons X, Y, and Z." X and one of the sons of A.B. predeceased the testator, each having a son who, on the testator's death, claimed the share to which his father would have been entitled under the will. Discuss this case fully

IV. State the rule in Ackroyd *v.* Smithson. When land is directed by deed or will to be sold, but there is a failure, entire or partial, of the purposes of conversion, does the land result as real or personal estate?

V. A, having a house in Madras, with land adjacent, sold the house to X and the land to Y. Y desires to erect on the land a building, which would obstruct the windows of the house. Discuss this case fully.

VI. What are the modes in which an easement may be extinguished, and when does an easement revive?

VII. Discuss the following case:—

A mortgaged a house in Madras to X in 1883, and in 1884 executed a mortgage on the same house to Y, who had no notice of the previous mortgage In 1888, interest on the mortgage to X having fallen greatly into arrears, A conveyed the house absolutely to X in discharge of the mortgage debt and interest, the mortgage to Y being concealed from X throughout. Y now sues A and X on his mortgage

VIII. State and discuss, with special reference to the law in India, the rules in Attorney General *v.* Sands, *or* Richardson *v.* Langridge and Aldrich *v.* Cooper, *or* Murray *v.* Elibank.

IX State and explain shortly the effect of the Statute *Quia Emptores* and of the Statue of Uses.

X. Explain the meaning of the following terms (1) gavelkind, (2) base fee, (3) chattel real, (4) emblements.

Wednesday, 21st January, 2 to 5 p.m.

LAW OF TRUSTS AND TRUSTEES.

I. What was the law in force in British India relating to trusts prior to the passing of the Indian Trusts Act? What classes of trusts are excluded from the operation of that Act?

II. Distinguish between executed and executory trusts. What different principles of construction are applied in regard to executory trusts contained in a marriage settlement made before or after marriage or in a will?

III. What are resulting trusts and when do they arise? State whether there is a resulting trust in the following cases; if so in whose favor, pointing out any difference between the English law and the Indian Trusts Act:—

1. A testator devises real estate to A subject to a charge in favor of B, and the charge fails.

2 A devises real estate to trustees in trust for sale for a particular purpose, and the purpose fails

3 A makes a valid gift by deed, expressing a general intention in favor of some charity, which does not exhaust the whole property.

IV What are the duties of a trustee of chattels personal when the trust is created for the benefit of several persons in succession?

V. When A is appointed trustee of two distinct trusts by the same instrument, can he accept one trust and disclaim the other?

When he is appointed a trustee under a will which gives him a legacy, can he take the legacy and disclaim the trust?

VI. Where property is vested in trustees in trust for sale for a particular purpose and they sell accordingly; in what cases will their receipt alone be a sufficient discharge; in what cases will the purchasers be bound to see to the application of the money?

Is the purchaser of personal property from the executors of a will which directs payment of debts and legacies in any different position?

VII. Can a trustee purchase the trust property from the *cestuique* trust? If so under what circumstances? Point out any difference between the English Law and Indian Trusts Act.

VIII. Can a trustee delegate his duties to a co-trustee or a stranger? If so under what circumstances?

When there are two trustees or two executors, and they both sign a receipt for money paid to one of them, who misappropriates it, is the other trustee or executor liable?

IX Can a *cestuique* trust create a trust of his equitable estate either under English Law or the Indian Trusts Act?

X. What are the right of the *cestuique* trust in case of a breach of trust to follow the property in the hands of third parties?

XI When a *cestuique* trust seeks to recover a debt or land, the subject matter of trust, is the plea of bar by limitation available to the defendant; if so in what cases? Is the *cestuique* trust entitled to exclude the term during which he was labouring under a disability?

Do courts of equity recognize any other bar than that arising from the statute of limitations?

XII. What is the ordinary mode of redress in cases of breach of trust by trustees of a public charity?

Give a summary of the provisions of Romilly's Act.

THURSDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

MERCANTILE AND MARITIME LAW.

1. State the rule in Clayton's case. Is it the law in India? What are the rights of A against B under the following circumstances:—

A partnership consisting of A, B, and C enters into a contract with A, which is to extend over three years. After one year B retires, taking a covenant by C and D (who continue the business of the firm) to indemnify him against all the liabilities of the partnership C and D break the contract with A.

II A B, a tradesman at Poona, whose domicile is English, was declared insolvent under the Civil Procedure Code. C S. wishes to set up business in conjunction with A B, who it is desired should have a substantial share in the business. As A B. has not obtained his discharge, it is suggested in order to protect the business from A.B's creditors, that A B's wife should put into the business her small separate property, and become a partner with C.D., and re-

ceive a substantial share in the profits, and that A.B. should be employed on a salary, as a servant in the business.

Advise on the suggested arrangements with reference to the possible claims of A.B.'s creditors against A.B., his wife, and the proposed partnership.

III. State the rules which regulate the right of the creditors of a bankrupt tradesman in England to moveable property in his possession of which he is not the owner; and discuss the following case:—

A.B., a London tradesman, by deed executed in contemplation of his marriage with C.D., assigned (inter alia) all his household furniture and plate to trustees to hold in trust for C.D., for her sole and separate use apart from A.B. After the marriage of A B. and C.D, they used the furniture, &c. in the house where they resided, and continued to do so when A B., long afterwards, became bankrupt.

IV. Discuss the following cases:—

1. A ship-builder agreed to build a vessel, and it was arranged that the price should be paid in several instalments. Part of the work having been done, but not paid for, the builder charged, in favor of a creditor, the instalment due to him on the delivery of the vessel. The trader became bankrupt, and his trustee in bankruptcy completed the vessel for a smaller sum than that which remained to be paid on delivery of the vessel. The creditor seeks to make good his claim under his security against the trustee.

2. A.B, the holder of a policy of insurance on his own life, deposited it (to secure a loan). with X, who, however, gave no notice to the Insurance Company. A B. afterwards borrowed money from Y, who was not aware of the previous transaction. The agreement between A.B. and Y, was that, to secure the loan, the policy (which A B. said he had at home) should be deposited with Y. This was not done but A.B promised to send it at once, and meanwhile signed a memorandum to the effect that he had deposited it with Y, and had agreed to execute to Y an effectual mortgage of it, and Y gave notice to the Insurance Co. After A B.'s death, both X and Y claimed the amount of the policy from the Insurance Company.

V. Explain what is meant by market overt. State the rules of English law as to sales in market overt, and point out shortly how these rules have been departed from in the Indian Contract Act.

VI. How are the rights of the holder of a bill of exchange, as against the acceptor, affected by the fact that the bill was accepted for the accommodation of the maker?

VII X, in the course of business with A, frequently drew bills of exchange on A, usually making them payable to the order of Y. B, who was A's clerk, forged the signature of X to a bill of exchange, purporting to have been drawn by X on A to the order of Y, and took it to A, together with a counterfeit letter of advice with regard to it, on which he had also forged the signature of X. A thereupon accepted the bill, and B, having forged upon it an endorsement purporting to be that of Y, presented the bill at A's bank and drew the amount. Are A's bankers entitled to debit A with the amount? Give the arguments for and against the view you adopt, and state

whether there is any difference between the law in England and in India applicable to this case.

VIII. State shortly under what circumstances the holder of a policy of assurance on a ship is entitled, as against the underwriter, to abandon the ship, and under what circumstances notice of abandonment is necessary, to enable him to enforce his claim against the underwriter.

IX. The plaintiff shipped certain bags of sugar on board the defendant's ship, but, as there was a dispute about the number of bags shipped, no mate's receipt was given and no bill of lading signed, till after the ship had sailed The sugar was delivered at the port of discharge, but was found to be damaged by water, which was the result of its having been stowed in immediate proximity to a quantity of wet timber. The bill of lading excepted "all the perils, dangers, accidents of the sea and accidents, loss or damage from any act, neglect, or default whatsoever of the pilot, master, or mariners, &c." In an action for damages, the defendant relied on the bill of lading (inter alia), and the plaintiff alleged (inter alia) that the ship was not fit for the voyage Discuss this case with reference to the point last mentioned.

X. State the rule in the case of the "Gratitudine" and explain fully what is meant by bottomry and respondentia

THURSDAY, 22ND JANUARY, 2 TO 5 P.M.

CONSTITUTIONAL HISTORY OF ENGLAND.

1. Sketch the history of the House of Lords from Henry III. to Henry VII.

II. Write a short history of the law of treason, beginning with the statute of Edward III.

III. What was the origin of the Court of Star Chamber? Describe with illustrations, the jurisdiction exercised by the Court of Star Chamber on the Tudor reign.

IV. 1. Give a short sketch of the work and history of the Long Parliament; or

2. Consider and explain how far it is accurate to say that the Restoration annulled the work of Cromwell and his party.

V. State the facts and explain the constitutional importance of four of the following cases:—(1) Ferrers' case, (2) Bakers' case, (3) Hampden's case, (4) Bushell's case, (5) Sir Edward Hales' case, (6) the case of the seven bishops.

VI. 1. State the arguments for and against (1) the Septennial Act and (2) the peerage Bill in the reign of George I.; or

2. Trace shortly the rise of the Cabinet system of Government in England; explain how it works, and contrast it with the Presidential system of America.

VII. What are the main changes which have been introduced since the accession of Queen Victoria into (1) the law of the constitution, (2) the conventions of the constitution?

VIII In what ways does Great Britain exercise legal control over her various dependencies?

FRIDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

PUBLIC INTERNATIONAL LAW.

I. Discuss the question whether a community which has revolted has a right to demand recognition as a belligerent by the state from which it has revolted. What is the effect of such recognition? On what ground does the right of a state to recognise the belligerent character of subjects of another state, for the purpose of international law, rest? Why is recognition of belligerency said to be irrevocable?

II. In what does international law, as applied to war, consist? Discuss the theory that the relation of war does not affect individuals, except in so far as they contribute to the prosecution of hostilities.

III. What are the immunities (1) of a foreign sovereign, (2) of a diplomatic agent?

IV. How far can a state compel foreigners to help in maintaining the public safety?

V. What is meant by intervention? What are the general conditions of legal intervention?

VI. Explain the meaning of Retorsion and Reprisals; when and why are they justifiable?

VII. What is meant by analogues of contraband? In what does the analogy consist? What is the penalty incurred by transport thereof? What was the case of the "Trent"?

VIII. In what does blockade consist? What are the conditions necessary for the due institution and maintenance of a maritime blockade? How does a neutral become affected with knowledge of a blockade?

IX. What is meant by visit and capture? When is capture of a vessel said to take place? What are the duties of the captor?

X. What is the right of angary? Give instances of its exercise. When is it justifiable?

FRIDAY, 23RD JANUARY, 2 TO 5 P.M.

PRIVATE INTERNATIONAL LAW

I. A, domiciled in India, is entitled to receive a legacy from trustees of an English trust estate By what law is the capacity of A to grant a valid discharge to the trustees to be decided? Give reasons for your answer.

II Discuss the proposition that the validity of a marriage must be decided by the law of the place where it was contracted.

III. Why is it incumbent on an Indian executor to ascertain whether or not his testator had a British domicile?

IV. What law governs (1) the distribution of the assets of deceased person among his creditors, (2) the distribution of the residue? Give reasons for the rule in each case, and mention any change of the law in England or India on either point.

V. A, born in Ireland of Irish parents there domiciled, went to London, lived there for five years, and was called to the English bar: A then came and practised as an advocate for twenty years in Madras, held various appointments under Government, made a fortune, married and had a family, bought houses and estates as investments for his children, whom he sent to England for education. A intended to retire from practice in a few years, and leave Madras for England, but before he carried out his intention. A died in Madras.

What was A's domicile? Give reasons for your answer; cite any cases which may be relevant; and state whether it would make any difference if Shanghai were substituted in his case for Madras.

VI. Discuss the question whether a divorce obtained in India, between persons domiciled in England, would be effective.

VII. "The *lex situs*, when it approaches the cradle, the place where the marriage is solemnised, and the death bed, drops its claims, and recognises as supreme the *lex domicilii*." Explain this passage.

VIII. What are the conditions essential to give a foreign judgment extra-territorial effect, and why are these conditions essential?

IX. A foreign judgment determining the status of an alleged slave has been held to have no extra-territorial effect. On what grounds does this decision rest?

X. Criticise the reasons given in support of the proposition that in Bankruptcy the *lex domicilii* governed the whole estate.

SATURDAY, 24TH JANUARY, 10 A.M. TO 1 P.M.

ROMAN LAW.

I. Distinguish between the different kinds of adoption recognized by the Roman Law. May an adopted son be again given in adoption under the Roman Law?

II. Fully compare *Usucapio* and *Præscriptio*.

III. Distinguish between the different kinds of substitution under the Roman Law.

IV. Explain the nature and origin of *Fidei commissa* and state in what respects they differed from English Trusts.

V. What are the modes of acquiring ownership mentioned in the Institutes? Classify them.

VI. 1. Define (*a*) *Obligatio*, (*b*) *Pactum*, (*c*) *Contractus*.

2. Were there any pacts that might be made the basis of action.

VII. 1. What do you understand by (*a*) *Dies cedit*, (*b*) *Dies venit*?

2. What, under Justinian, was the general rule of *Dies cedit* and *Dies venit* regarding legacies?

3. Mention two exceptions to the general rule of *Dies cedit* of legacies.

VIII. What is a Stipulation? Explain the distinction in the

respective effects of a stipulation in diem and of a conditional stipulation.

IX. Explain '*Servitus in faciendo consistere non potest.*' State if there is any exception to it.

X. 1. Distinguish between the rights and obligations of a usufructuary and those of a user.

2. In what circumstances are the different kinds of Interdicts granted under the Roman Law?

XI. Explain (1) *Jura in re-aliena*, (2) *Indebiti Solutio*, (3) the Anastasian Law, (4) the Pegasian portion, (5) Tacit hypotheca.

FIRST L.M.S. DEGREE EXAMINATION, 1890.

MONDAY, 7TH JULY, 10 A.M. TO 1 P.M.

CHEMISTRY.

I. How may the specific gravity of a liquid be ascertained without a bottle, and that of a solid without a balance?

II. Describe a method of determining the specific heat of a solid body How is the specific heat made use of in fixing the atomic weight of an element? Can the atomic weights of elements be accurately determined by this method alone, and if not, what other methods have to be applied?

III Distinguish between the empirical formula and the molecular formula of a substance, and state how each is ascertained. Calculate the empirical formula of a compound containing in one hundred parts by weight 30·5 parts of nitrogen and 69·5 parts of oxygen.

IV. What is the weight in criths of the product obtained when two cubic metres of carbon monoxide combine with an equal volume of chlorine? Calculate the volume of the product at 15°C and 755 mm. pressure. What is the action of ammonia on this compound?

V. Describe how cyanogen may be prepared and collected. What are the products of the combustion of this gas, and what volume do they occupy when one litre of cyanogen is burnt? Mention some compounds which contain the radical 'cyanogen' and state what you know about them.

VI. How may an aldehyde and an acid be obtained from an alcohol, and how may an aldehyde and an acid be reconverted into an alcohol? Give equations for the changes which take place, and write graphic formulæ for all the bodies reacting.

VII. Give the systematic names of the oxides and oxyacids of carbon. To which of these compounds is urea related? Explain the cause of the ammoniacal smell evolved by urine on standing.

VIII. Name the most important ones of iron. How do the varieties of commercial iron differ from each other in physical properties and chemical composition? Name the basic oxides of iron and the most common salts derived from each of them, and state how the salts of one oxide may be distinguished from and converted into those of the other.

IX. What is the chief ore of lead, and how is the metal obtained from it? Name and formulate the oxides of lead, state how each can be prepared, and how nitric acid acts on each. What conditions as regards water would render it liable to become contaminated with lead

MONDAY, 7TH JULY, 2 TO 5 P.M.

MATERIA MEDICA.

I. Write out a prescription for a pill containing digitalis, for use in a case of cardiac dropsy.

II. What are the officinal preparations of arsenic? Give their doses. At what time ought arsenic to be given? How would you know when the system was fully under its influence?

III. What is cannabis indica, and what are its physical properties, its medicinal qualities, its preparations and their doses?

IV. By what sensible characters and chemical tests may acetate of lead be known, and what are its leading officinal preparations?

V. What are the sensible characters of aconite root by which it may be known in the unbroken state, and what are its preparations and their doses?

VI. In what diseases is ergot used, and what is the usual theory of its action as their remedy?

TUESDAY, 8TH JULY, 10 A.M. TO 1 P.M.

PHYSIOLOGY.

I. Give an account of the functions of the glossopharyngeal nerve.

II. Describe the development and functions of the human placenta. The embryos of oviparous animals do not require a placenta; why is this?

III. What are the differences between carbohydrates and hydrocarbons? Give an example of each present in the fluids of the human body.

IV. Compare the course taken by the blood in travelling from the right auricle to the left ventricle in a fœtus and an adult. Give the reasons for the differences.

V. Describe the appearances which are seen when the fundus of a normal eye is examined with an ophthalmoscope.

VI. Enumerate the ductless glands; and describe the microscopical structure of any one of them

TUESDAY, 8TH JULY, 2 TO 5 P.M.

ANATOMY.

I. The pyriformis muscle,—give its origin, insertion, and relations.

II. Describe the spleen, giving its structure and relations.

III. Describe the crural sheath. How is it formed, and what structures does it contain?

IV. Describe the zygomatic fossa as to (1) its position, (2) its boundaries, (3) its contents, (4) the openings into it, and the parts with which it communicates.

V. Describe a dissection to expose the interosseous membrane of the leg from behind, enumerating the various structures as they are exposed.

VI. Describe the (1) course, (2) relations, (3) distribution of the nerves met with in the dissection of the dorsum of the foot, (4) the sources from which they are derived.

SECOND L.M.S. DEGREE EXAMINATION, 1890.

MONDAY, 14TH JULY, 10 A.M. TO 1 P.M.

MEDICINE.

Not more than four questions are to be answered.

I. Describe clearly a paroxysm of intermittent fever (ague). How would you treat such an attack, and what precautions would you advise both to prevent further attacks and to arrest the disease?

II. In the treatment of typhoid fever state how you would deal with (1) constipation, (2) severe intestinal hæmorrhage, and (3) perforation of the bowel.

III. What do you understand by 'acute hydrocephalus'? Give the symptoms and treatment.

IV. Distinguish between hæmoptysis and haematemesis. What are the chief causes and treatment of the latter?

V. What are the physical signs of pleurisy with effusion?

MONDAY, 14TH JULY, 2 TO 5 P.M.

SURGERY AND OPHTHALMOLOGY.

I. What is empyema? What are its causes? How would you diagnose a case of this disease? How would you treat it?

II. In what cases is it advisable to form an artificial anus? How will the after treatment of such cases differ?

III. Describe the hip joint and its ligaments. Name the muscles in intimate relation with the joint.

IV. Enumerate the several purposes for which splints are used in fractures. Are they ever injurious? When should they be avoided as being injurious? If so, how would you treat a fracture?

V. Describe the appearances and symptoms usually presented in a case of interstitial keratitis. What are its causes? What is the treatment for such a case?

VI. What may be the effects of a penetrating wound of the cornea? How would you treat its various consequences?

TUESDAY, 15TH JULY, 10 A.M. TO 1 P.M.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

I. Give the diameters of the female pelvis at the brim and enumerate the points of difference between male and female pelves.

II. Detail the rules to be observed in the management of the third stage of labour.

III What are the causes of post-partum hæmorrhage? Give the treatment.

IV. Enumerate the different modes of performing podalic version, and state the indications for the performance of the operation.

V. State the differential diagnosis in a case of 'ovarian cystoma.'

VI. What are the symptoms of congenital syphilis? At what periods do they appear? What is the treatment?

TUESDAY, 15TH JULY, 2 TO 4 P.M.

MEDICAL JURISPRUDENCE.

I. How would you roughly determine the period which has elapsed since the death of an individual?

II. Give briefly the tests for recognising human blood.

III. What results follow from the discharge of atmospheric electricity on the human body?

IV. Mention the signs of recent delivery of a full term child in a living woman, and also the period within which such signs, as a rule, may be expected to exist. What other causes than this may give rise to many of the signs?

WEDNESDAY, 16TH JULY, 10 A.M. TO 12 NOON.

HYGIENE.

Not more than three questions are to be answered.

I. What impurities in drinking water will cause diarrhœa?

What inferences can be drawn from an excess of chlorine in drinking water?

II. What should be the maximum amount of CO_2 in an inhabited room which is well ventilated?

Let the amount of cubic space for one man be 600 cubic feet, and the ratio per 1,000 of CO_2 from respiration and initial CO_2 be 1·4; calculate the delivery of fresh air which is necessary.

III. What are the different kinds of arrack and their strength? Describe briefly the preparation of any kind.

IV. Mention the chief natural means by which the air is rendered or kept pure.

V. What effect has exercise on the heart and vessels?

PRELIMINARY SCIENTIFIC EXAMINATION, 1890.

MONDAY, 7TH JULY, 10 A.M. TO 1 P.M.

CHEMICAL PHYSICS AND CHEMISTRY.

I Give a general equation for the relation which exists between the volume, temperature, and pressure of a given mass of any gas; also the equation used for reducing the observed volume of a given mass of any gas to standard temperature and pressure.

What volume of hydrogen is set free by 0 35 gramme of zinc; the gas being measured over water at a temperature of 22° C. and under a barometric pressure of 750 mm ?

The tension of aqueous vapor at 22° *is* 19 66 *mm.*

II. What are the laws of chemical combination; by what means have they been established ? In what respects does a mechanical mixture differ from a chemical compound ? Show that the atmosphere belongs to the former class.

III. What is meant by the equivalent weight of an element ? Mention some of the methods by which the equivalents of elements are determined, and explain why in certain cases the equivalents are identical with the atomic weights but not in others, and why the same element may have more than one equivalent.

IV. On what grounds, physical and chemical, is the assumption based that equal volumes of all gases, under similar conditions of temperature and pressure, contain the same number of molecules ?

V State Dulong and Petit's law relating to the specific heat of elements, and describe how the law is applied in determining atomic weights. 9 parts by weight of a metal displace 1 part by weight of hydrogen; its specific heat is 0 0214; what is the atomic weight and the valency of the metal ?

VI. Mention the elements which form compounds with hydrogen. Classify these compounds according to their properties, and state how each may be prepared.

VII Name the metals which decompose water (1) at all temperatures, (2) at a red heat only. Which metals do not decompose water at any temperature ? Explain why sodium and aluminium are very expensive metals notwithstanding that their compounds are so cheap and abundant.

VIII. What is meant by "isomerism" ? Give the graphic formulæ of three isomeric hydrocarbons, three alcohols, and three acids. What other compounds have the same molecular weight as propylamine; are any of these compounds isomeric ?

IX. What is an alcohol; how are alcohols classified with reference to (1) the number, (2) the position of the hydroxyl groups they contain ? Give examples of each class.

X. What is the relation of alcohols to acids; how are alcohols converted into acids and acids into alcohols ? By what synthetical and analytical reactions has the constitution of acetic acid been established ?

TUESDAY, 8TH JULY, 10 A.M. TO 1 P.M.

BOTANY.

I. Describe in technical language the plants marked A. and B.

II. What are the essential characters of the natural order *Cucurbitaceæ* by which you would know a plant belonging to this order from one belonging to any other?

III. Give an account of the structure and development of *laticiferous vessels*, and say what plants in this country yield latex products of economic value.

IV. Give a short but clear account of the way in which starch is formed in leaves, and how it is transmitted to other parts of the plant.

V. Describe how the different elements of a dicotyledonous stem are developed from the primary meristem.

VI. Contrast the sexual generation of *Mucor* with that of *Penicillium*, illustrating your remarks by means of diagrams.

FIRST M.B. & C.M. EXAMINATION, 1890.

MONDAY, 7TH JULY, 10 A.M. TO 1 P.M.

COMPARATIVE ANATOMY.

I. Give an account of the various respiratory organs met with in the animal kingdom.

II. Describe the eye of an arthropod and of a mollusc, and point out the most important characters in which they differ from the vertebrate eye.

III. Describe the structure and life-history of *Ascaris lumbricoides*, *Trichina spiralis*, *Filaria sanguinis-hominis*, and *Echinorhynchus gigas*.

IV. Describe the skeleton of the pelvic limb of a shark, crocodile, fowl, horse, and man; and point out the chief peculiarities of each.

V. Give an account of the various exoskeletal structures met with among the Vertebrata.

VI Ontogeny is said to be a repetition of phylogeny. Point out by reference to the typical development of a highly developed organism how far stages through which it passes correspond to existing groups of animals.

MONDAY, 7TH JULY, 2 TO 5 P.M.

MATERIA MEDICA.

I. What is the officinal name of Cascara Sagrada? What are the preparations, uses and doses?

II. What part of Hæmotoxylon is officinal? What are its preparations, their uses and doses? In what diseases is it most useful? Write a prescription.

III. Explain carefully the action of digitalis on the heart. What are the chief conditions in which it may be used with advantage? Is there any difference in the action of the tincture and infusion?

IV Describe the pharmacological action of codeine, and mention its therapeutic uses and doses.

V. Explain the action of free iodine, bromine, and chlorine in producing their therapeutic effects. State the differences in activity between these substances in the free form.

VI What actions of pilocarpine may be pharmacologically antagonized by atropine?

TUESDAY, 8TH JULY, 10 A.M. TO 1 P.M.

PHYSIOLOGY.

I. Give an account of the chemical composition of the blood.

II. What evidence is there as to the presence of automatic motor centres in the vertebrate heart? Describe any experiments bearing on the subject.

III. Describe the structure of the mammary glands, and state any changes which take place in them during secretion. What are the chemical and microscopical characters of milk?

IV Enumerate the chief organic constituents of healthy urine. State, as regards each, its probable source of origin, the amount secreted, and the form which it assumes.

V. Give an account of tissue metabolism. State the factors which lead to variation in this metabolism.

VI. Describe the minutes structure of the cerebellum, and state what is known as to its functions. State the effects of entire removal of this part of the brain.

TUESDAY, 8TH JULY, 2 TO 5 P.M.

ANATOMY.

I. (1) Give the course and relations of the brachial artery; name its branches, and give their anastomosis. (2) Describe the superficial veins of the arm.

II Describe the first rib. Give the structures in relation with it.

III The calvarium having been removed, describe the method of removing the brain, naming, in order, the parts which it will be necessary to cut.

IV. Describe the tongue as to (1) its position and connection with surrounding structures, (2) the peculiarities of its mucous covering, (3) the muscles constituting its structures and regulating its movements, (4) its blood supply, (5) its nerve supply Trace the bloodvessels and nerves to their source.

V. Describe the shoulder joint, (1) the bones and ligaments entering into its formation, (2) the peculiarities of its synovial membrane, (3) the muscles, arteries, and nerves in relation with it, giving the origin and insertion of the former, and the sources from which the latter two are divided, (4) the movements of which it is capable.

VI. Describe the course and the relations of the veins which terminate in the inferior vena cava above the junction of the common iliac.

SECOND M.B. & C.M. EXAMINATION, 1890.

MONDAY, 14TH JULY, 10 A.M. TO 1 P.M.

MEDICINE.

I. Distinguish between a 'diathesis' or 'temperament' and a 'cachexia.' Give a clear description of the pure 'temperaments.' Mention the chief cachexiæ.

II. Give the causes, symptoms, and treatment of gastric ulcer.

III. What is meant by 'angina pectoris'? Give the predisposing causes, and the conditions with which it is most chiefly associated: the treatment.

IV. Describe a case of whooping cough in its different stages. State how you would treat an uncomplicated case, and how one in which broncho-pneumonia has supervened? Write a prescription for each case, the patient being two years old.

V. State briefly but carefully your opinion about the late influenza epidemic. Describe any case seen by you and how you would have treated it. What are the complications?

MONDAY, 14TH JULY, 2 TO 5 P.M.

SURGERY.

I. How are fractures of the pelvis usually produced? What complications are likely to occur in such cases, and how would you deal with them?

II. What is acute glossitis? What are its causes, complications, and treatment?

III. What are the different forms of innocent tumors of bone? Give their differential diagnosis and treatment.

IV. Distinguish between fatty degeneration of the arterial coats and atheroma. What are the post-mortem differences? What relation does fatty degeneration hold to aneurysm, thrombosis, or apoplexy?

V. What are the stages of concussion of the brain? Describe the symptoms of the first stage. What symptoms characterize the reaction stage of a case of concussion; which of them may be regarded as of bad omen, and what do they imply?

VI. Give the course and relations of the internal pudic artery. Specify the operations in which any particular branch of it is liable to be wounded.

TUESDAY, 15TH JULY, 10 A.M. TO 1 P.M.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

I. Give the mechanism of a case of labour, the head being in the first position.

II. What are the various conditions leading to molar pregnancy?

Enumerate the different kinds of moles, and give a brief account of the symptoms and treatment of each.

III. Enumerate the various theories mentioned as to the cause of puerperal convulsions. What symptoms would lead you to suspect that they were likely to occur? What is the treatment, both prophylactic and during an attack?

IV. What are the various ways in which cancer may affect the uterus? State how you would diagnose the disease from other affections, and the general principles of treatment.

V. Enumerate the local causes of menorrhagia, and give briefly the treatment applicable to each class of case.

VI. Give the causes, symptoms, diagnosis, and treatment of intussusception in children.

TUESDAY, 15TH JULY, 2 TO 5 P.M.

MEDICAL JURISPRUDENCE.

I. Give the symptoms and treatment of poisoning by datura

II. Give the symptoms and post mortem appearances in fatal poisoning by corrosive sublimate; also the method of extracting the poison from organic liquids and solid viscera, and of identifying it.

III. Describe the general symptoms caused by irritant poisons. State the diseases giving rise to similar symptoms.

IV. State how hydrocyanic acid can be extracted from the contents of the stomach and identified.

V. Give the mode of procedure in examining stains on clothing, and state the physical and chemical properties distinguishing blood stains from those of other substances.

WEDNESDAY, 16TH JULY, 10 A.M. TO 1 P.M.

HYGIENE.

I. State how you would detect the presence of nitrites in a water. What inferences do you draw as to the water from the detection of nitrites in it?

II. State briefly what you know on the subject of acclimatization.

III. What are the chief winds in Madras, and to what are they due? What effect have they on the health of the community?

IV. What evil effects follow a continued excess of food?

V. What are the effects of exercise on the lungs and on the elemination of carbon?

WEDNESDAY, 16TH JULY, 2 TO 5 P.M.

OPHTHALMIC SURGERY.

I. Enumerate the various causes which produce monocular diplopia. How may this subjective symptom be relieved in each case?

II. In what affections of the eye are photopsia and chromatopsia

present as symptoms? Describe how the pathological conditions give rise to such subjective symptoms.

III. An old man, aged 63, is almost blind; the pupils are small and do not yield to atropine; has bare perception of light in both eyes; his sight has been weak all his life; two elder brothers are blind; a sister has lost one eye, and has defective vision in the other; patient is a little deaf; has never had any symptoms indicative of headache or disorder of the nervous system. (1) What is the probable cause of failure of sight? (2) How may the diagnosis be confirmed? (3) What treatment should be adopted?

IV. A man, aged 50 years, in good health and enjoying good sight, is engaged stooping over a bench sawing a log of wood. On the following days he complained of seeing, as it were, drops of water falling rapidly from the brim of his hat before one eye. He was not troubled by flames of green or blue color, or photopsies. On examination the perimetric chart is diminished; perception of objects in the lower and inner parts of the field is diminished. There is no increase of tension, and no pain beyond a certain amount of circumorbital aching occasionally. (1) What was the probable nature of the complaint? (2) Explain the several symptoms complained of? (3) If any, what treatment should be adopted for his relief?

B.C.E. DEGREE EXAMINATION, 1891

MONDAY, 19TH JANUARY, 10 A.M. TO 1 P.M.

SURVEYING AND LEVELLING.

N. B.—Traverse tables may be used.

I. Draw a scale of 16 inches to 1 mile, showing yards. 600 yards should be represented, 500 being to the right of the zero point.

Draw a comparative scale of metres. 600 metres should be represented, 500 being to the right of zero point. One metre =39 371 inches.

II. From the following traverse observations and measurements, find the latitude and departure of each station refer to station A; and plot the traverse to a scale of 200 ft. to 1 inch:—

Station.	Inward angle (corrected.)	Bearing.	Cardinal direction.	Reduced Bearing.	Distance feet.
A.		197°-32′			795
B.	232°-10′				1138
C.	36°-48′				2462
D.	74°-06′				2005
E.	81°-14′				1086
A.	115°-42′				

III. On commencing a survey with the theodolite at a point X on the ground, you observe three inaccessible points A, B, C, which are in the same general line, and are all at about equal distances from X. The angles AXB, BXC are observed The points A, B,C, are given on the map. Shew how to plot by construction or otherwise, the point X.

IV Plot the following chain survey of a field (1 chain = 66 ft) to a scale of 1 chain to 1 inch, and find the area in acres and square yards.

	⊙A	
	600	
	000	
	⊙C.	
	⊙C	
0	375	
13	292	
9	213	
Boundary	150	crosses.
	62	15
	30	0
	000	0
At	⊙B	turn left.
	⊙B.	
	703	
	653	12
	508	12
Boundary	426	crosses
12	287	
Boundary	221	crosses.
	155	10
	000	0
From	⊙A.	go N.

Monday, 19th January, 2 to 4 p.m.

SURVEYING AND LEVELLING.

I Complete the entries in the accompanying Level Book, check the accuracy of your work, and plot neatly the section to horizontal and vertical scales of one chain (66 ft), and twenty feet to an inch.

Draw Formation line starting from 33 chains at a level of 71·00, with a uniform gradient, equalizing by eye banks and cuttings. Write on what this gradient will be.

LEVEL BOOK.

Section taken along the centre line of portion of a proposed road.

Black Sight.	Fore Sight.	Rise. Feet.	Fall. Feet.	Reduced Level. Feet.	Distance Chains.	Remarks.
4·47				70·22		B.M. on Boundary stone.
	4·53				33	
	9 22				34	
	5 07				35	
	·24				36	
6·36						
	1 87				37	
6·14						
	1·47				38	
6·62						
	2·10				39	
	2 24				39·16	
10·42						
	9·47				39 30	
	13·22				39·44	Centre of Road.
	13 15				39 56	Edge of do.
	8·75				39·66	
	4·48				39·76	
	4·32				40	
2·44						
	8 84					B. M.
	2 83				41	
0·74						
	2·18				42	
	5·35				43	

II. Mark on the accompanying map of a field the least number of lines by which it can be correctly surveyed with a chain, and the work checked by a tie line; and compute the area in acres in the most expeditious manner, showing lines and method used.

III. From the following barometric observations find the height of the upper station above the sea level:—

Lower station (188 feet above sea). Thermometer 57° Barometer 29 89 in. Upper station Thermometer 54° Barometer 26·81 in.

N.B.—The remainder of the afternoon will be devoted to a practical examination in the use of surveying and levelling instruments.

MONDAY, 19TH JANUARY, 10 A.M. TO 1 P.M.

MECHANICAL ENGINEERING.

N.B.—Tables squares and cubes, and of areas and circumferences of circles may be used.

I The main shaft of a workshop is 3¼ ins. diameter, it makes

150 revolutions per minute, and transmits 100 H.P. What should be the diameter of the shaft to transmit the same power at 300 revolutions per minute?

II. The rim of a fly wheel, of the dimensions shown in fig. 1, weighs 1 ton, and makes 200 revolutions per minute. What is the stored up H.P. in the wheel which it would give out again on stoppage of the driving power?

III. The ports of a steam cylinder 18 ins. diameter and 26 ins. stroke, are of the dimensions shown in fig. 2, and a slide valve is required for it that will cut off the steam at 10 ins. of the stroke of the piston; travel of valve 2¾ ins. What must be the lap of the valve? (May be done by the graphic method or by calculation.)

IV. Determine the direct tension and compression stresses in each member of the crane shown in fig. 3; also the upsetting moments to be resisted at the top and bottom pivots. (May be done by the graphic method or by calculation.)

V. A locomotive exerting a tractive force of 7000 lb. hauls a train of a total weight, including the engine, of 470 tons at a speed of 35 miles an hour on a level. The engine is capable of exerting a maximum tractive force of 15,000 lb. At what speed could it take the load of 470 tons up an incline of 1 in 100? (Total train resistance of all kinds except that due to gravity $=\frac{S^2}{171}+8$, where S = speed in miles per hour.)

VI. A centrifugal governor of the dimensions shown in fig. 4 is required to fill the following conditions:—

At the normal speed of the engine the balls are to remain in the position shown The mechanism to be actuated by the governor requires a force equivalent to a weight of 15 lb. to move it, and the governor must be capable of lifting this weight of 15 lb. at the point A through ½ in. for a variation of 10% in the speed of the engine.

Calculate revolutions per minute of the governor for the normal speed of the engine, and the weight of the balls necessary to produce the required movement at the given variation of speed.

Monday, 19th January, 2 to 5 p.m.

MECHANICAL ENGINEERING.

N.B.—Sketches of the following details are to be made freehand, of small size, and not necessarily to scale. Neatness as well as correctness in the sketches will be considered in awarding marks. Any eight of these sketches will secure full marks.

I. A locomotive piston and rod, showing clearly mode of attachment of the rod to the piston

II. Section of a rivetted lap joint in ½ in. boiler plate, showing effect of caulking. (Figure dimensions for this.)

III. Show attachment of a locomotive boiler to the engine frame, and the means by which the boiler is free to expand.

IV. A slide valve with spindle and buckle, showing how the valve is free to move in the buckle.

V. A connecting rod big end, marine engine type.
VI. Method of staying the flat top of a locomotive fire-box.
VII. A simple hand pump, showing action of the valves.
VIII. A boiler feed pump.
IX. Method of fastening a crank pin in a locomotive wheel.
X. Tyre fastening for a railway wheel.
XI. A piston rod stuffing box.
XII. The part of the valve gear of an oscillating engine that allows the cylinder to move without affecting the motion of the valve.

TUESDAY, 20TH JANUARY, 10 A.M. TO 1 P.M.
MECHANICAL ENGINEERING.

N.B.—To avoid arithmetical calculations, Molesworth's pocket book may be used. The tables of temperatures, volumes, and average pressures, and of squares, cubes, &c., will be found convenient.

I. Define a unit of heat and its mechanical equivalent, and illustrate by a diagram a form of apparatus for determining the numerical value of the mechanical equivalent of heat.

II. 1 lb. of water at 40° F. is converted into steam at atmospheric pressure. Calculate and show separately the quantity of heat used (1) in raising the water from 40° to 212°; (2) in converting the water at 212° into steam at 212°; (3) in work done against the resistance of the atmosphere.

III. 50 lb. of water at 80° F. are mixed with 100 lb. of water at 130° F. What is the resultant temperature of the mixture?

IV. What weight of water at 40° F. is required to condense 1 lb. of steam at a pressure of 5 lb. per sq. in. absolute, so that the resultant temperature of the condensing water shall be 100° F ?

V. A boiler consumes 2 lb. per H. P. per hour of coal, the calorific value of which is 14700 heat units per lb , and it evaporates 9 lb of water per lb. of coal from and at 212°. What is the efficiency of the boiler, that is, the ratio of the heat utilised in the production of steam to the total heat developed by the fuel ?

VI. A locomotive engine with cylinders 18 in. diam. and 26 in. stroke, while running at 25 miles an hour makes 175 revolutions per minute; initial pressure in the cylinders 100 lb per sq. in absolute; steam cut off at $\frac{1}{4}$ths of the stroke; clearance at each end of the cylinder 4% of the volume swept by the piston; back pressure 5 lb per sq. in (20 lb. per sq. in. absolute). Temperature of feed water 80°. Calculate (1) mean effective pressure in the cylinders; (2) H. P. developed by the engine; (3) efficiency of the engine, that is, the ratio of the heat converted into useful work in moving the engine to the total heat consumed.

VII. Work out the annexed indicator diagram; show percentage of the stroke at which steam is cut off, and the point at which the exhaust closes. Measure the average pressure from the diagram, and calculate the H P. of the engine. Also state imperfections of the engine, if any, indicated by the diagram.

Tuesday, 20th January, 10 a.m. to 1 p.m.
CONSTRUCTIVE ENGINEERING.

1. A trussed beam for a traveller, 36ft. long, is of the form shown in fig. 1. The beam weighs 1 ton, which may be taken as applied at the strut heads, and is subject to a travelling load of 4 tons concentrated. Calculate the teak section required for the upper member of the truss. $f_b = 13{,}500$ lb. $f_c = 12000$ lb.

II A rolled steel beam is 30 ft long, 16 inches deep and 6 inches wide The thickness of the web is $\frac{9}{16}$ inch, and the mean thickness of the flanges $\frac{1}{2}$ inch. The beam carries a distributed dead load of 16 tons. Find (1) the moment of inertia of the cross section about the neutral axis; (2) the maximum stress developed in the flanges; (3) the approximate factor of safety of the beam, assuming the steel to be of good quality.

III. A plate girder is 72ft. long, and 6 ft. deep between centres of flange areas. It carries a total load of $1\frac{1}{4}$ tons per foot run. The compression flange is 18 inches wide, and is made up of two angles $4'' \times 4'' \times \frac{1}{2}''$, and of $\frac{1}{2}''$ plates. Stress 4 tons per sq inch

Draw a diagram of bending moment, and shew that it is a graphic representation of the theoretic flange area at every section.

Show on the diagram the lengths to be given to the angles, and to the different plates making up the flange.

IV. The apse (or semi-circular end) of a large hall has a roof of 30° pitch, carried on iron trusses of the form shewn in fig. 2. The different trusses meet at their upper ends, while their lower extremities are 12ft. apart, measured on the curve. The roof weighs 80 lb. per sq. ft Find the stresses due to this load in the different members

The upper member of the truss is 20ft. long, divided into four equal bays. The middle vertical measures 5ft, the other verticals $3\frac{1}{2}$ft. Scale for stress diagrams to be not less than 1500 lb. to 1 inch.

V A girder 120ft. long and 12ft. deep, of the form shewn in fig. 3, sustains a dead load of $\frac{1}{4}$ ton per foot run, and a rolling load which (estimated as equivalent dead load) amounts to 1 ton per foot run. The loads are all applied on the top flange. Find (1) the maximum stress in the sixth diagonal, marked x; (2) the maximum stress in the third bay of the bottom boom, marked y.

VI What do you understand by a *line of resistance* in a masonry structure? What conditions must be fulfilled by a line of resistance in order (1) that the structure may not fail by (*a*) overturning, (*b*) crushing, (*c*) sliding; (2) that there may be no tensile stress in any part of the structure.

Tuesday, 20th January, 2 to 5 p.m.
CONSTRUCTIVE ENGINEERING.

I How should lime intended for building purposes be slaked, and quick-lime be preserved till required? Why is air slaking undesirable? What objection is there to the use of sea sand in mortar, and how may this be obviated?

II Sketch and describe the pneumatic method of sinking iron cylinders or caisson foundations, and make a sketch diagram of an air lock; explain its use and mode of action. For what class of foundations is this method most suitable, and what limits the depths to which it can be used?

III. Draw, to a scale of half an inch to a foot, plan and elevation of a tried brick arch, built of stock bricks, for a roof 20 feet span, $2\frac{1}{2}$ feet rise, and nine inches thick, showing the bond you would use, and giving reasons. Describe the mortar you would use, how the arch should be built, and state when the centres should be struck The plan need only show a width of 3 feet.

IV Sketch and describe the method usually employed for constructing the floors of wooden road bridges. How thick are the floor planks? Should they be closely jointed; if not why? What are the relative merits of flooring planks laid on joists, and direct on the trusses without joists?

V Why are iron washers used under bolt heads in carpentry, and what considerations determine their proper size?

VI A timber arch rib 12″ × 6″ to support a vertical load, is built of planks 12″ × 1″. How should these be placed to give the greatest strength, horizontal or vertical? Show, by neat sketches, how the planks should be bolted together and arranged to break joint.

VII Make a neat sketch plan and cross section of a canal lock. Describe the use and mode of action of the lock, and write on the sketches the technical names of the various parts.

Wednesday, 21st January, 10 a.m. to 1 p.m.

HYDRAULICS.

I. A gauge board has a rectangular notch 2 feet long, so made as to secure complete contraction. On a particular occasion the depth of water on the notch, measured to the surface of still water, is read as 0·36 ft. Estimate, by the most accurate formula you are acquainted with, the discharge over the board in gallons per minute.

II. Prove the theorem of Bernoulli. Thence shew that the effective head producing discharge through a waterway in a railway embankment which is run across a tank is the difference of level between the water surfaces on the two sides of the embankment.

III A new 40 inch pipe is to be laid from the Red Hills to Madras, a distance of 32,000 feet, and is to give a discharge of 10,000,000 gallons per 24 hours Level of water at Red Hills 51·50. Level of pipe at Madras 3·50 Find (1) the loss of head due to resistance in the new pipe, (2) the pressure per square inch at the Madras end of the pipe. For a 40″ new pipe $v = 56\sqrt{ds}$.

IV. A large high-level cistern can be emptied by a pipe 200 feet long and 1″ in diameter, proceeding vertically downward from the bottom of the cistern. The water on leaving the pipe falls 6 ft. further into a river. If there is 5 ft. of water in the tank, find the discharge from it, in c. ft. per minute, when the pipe is open; and find also the velocity of the water jet as it reaches the river.

V An aqueduct of rectangular section, built in brickwork, is 20 ft wide, and has a fall of 0·3 ft. per 1,000. Estimate the mean velocity when the water runs 4 ft. deep. (In Bazin's formula $\alpha = 004$, $\beta = 2$ for brickwork.)

VI A channel is to be designed to carry a full supply of 528 c. ft. per sec. with a depth of 4 ft. A full supply velocity of 3 ft. per sec. is considered suitable, and the soil permits of the slide slopes being at 1 to 1 Sketch a dimensioned section of the channel, and calculate what the fall per mile should be.

Co-efficient of velocity for earthen channels.

H.M.D.	2·5	3·0	3·5	4·0	4·5
C.	67	70	73	76	78

VII. Two docks with vertical walls have superficial areas of 10 acres and 6 acres, respectively, and communicate with each other by gates containing two sluices, each 4′ × 4′, with their sills at bed level. When the water in the larger dock has a depth of 29 ft., and in the smaller a depth 4 ft, the shutters are opened. After what interval will the water attain the same level in both docks, and what will be its depth.

VIII. A lock chamber is 150 ft. long, and has a mean width, allowing for face batter, of 21½ ft. The levels connected with it are

Floor of lock	.	6·88
F.S.L lower gates	...	12·88
Upper sill (bed of upper reach)	..	9·72
F. S. L upper gates	...	... 15·72

The lock is filled by two tunnels, one in each side wall Each tunnel is 3 ft. square in section at the off-take, the sill of the opening being at bed level of upper reach. The tunnel then turns at right angles, so as to run parallel to the axis of the lock. There is a sudden drop to the lock floor, the roof of the tunnel remaining at its original level. The deep part of the tunnel communicates with the lock chamber by three arched openings 3 ft. wide and 3 ft. 6 ins. high, with their sills at floor level. The sluice shutter is placed above the drop, and is worked by a rack and pinion so as to give a full opening of 3′ × 3′ in a few seconds.

Neglecting loss of time due to gradual opening of shutters, find the time required to fill the lock when the canal carries its full supply. Both shutters are opened simultaneously.

WEDNESDAY, 21ST JANUARY, 2 TO 5 P.M.

ESTIMATING.

Take out the quantities of work required for the bungalow shown in the drawing placed before you. Abstract these in estimate form, and write opposite each description of work the rate you would allow for it in Madras.

WEDNESDAY, 21ST JANUARY, 2 TO 5 P.M.

ESTIMATING.

Estimate the cost of the crane shewn in the accompanying drawing.

Prices for:—

	RS. A.		RS. A.
Iron Castings ...	5 14 per cwt.	Forgings ...	28 0 per cwt.
Brass Castings	1 0 per lb.	Bolts & nuts...	0 4 per lb.
Timber ...	4 12 per cub. ft.	Chain	17 4 per cwt.

Such minor dimensions necessary for calculating weights, as thickness of some parts of castings, sizes of bolts and pins, and others which are not figured on the drawing and cannot be measured by reason of the small scale, to be supplied by the judgment of the student. It will be found convenient to make rough sketches not to scale, but fully figured, from which to estimate the weights of some of the details.

THURSDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

EUCLID AND ALGEBRA.

I. Upon a given straight line describe a segment of a circle which shall contain an angle equal to a given rectilineal angle.

Describe a triangle, given all the angles and the length of the line joining one to the middle point of the opposite side.

II. In a right-angled triangle, if a perpendicular be drawn from the right angle to the base, prove that the triangles on each side of it are similar to the whole triangle and to one another.

From an external point A, tangents AB, AC are drawn to a circle whose centre is D. AD meets BC at E. A straight line OP is drawn parallel to BC and bisecting AE at O. If P be any point in OP, prove that PE is equal to the tangent from P to the circle.

III. If from any angle of a triangle, a straight line be drawn perpendicular to the base, show that the rectangle contained by the sides of the triangle is equal to the rectangle contained by the perpendicular and the diameter of the circle described about the triangle.

From any point on the circumscribing circle of a triangle perpendiculars are drawn to the sides. Show that their feet lie on one straight line.

IV. Draw a straight line perpendicular to a plane from a given point without it.

Draw a straight line which shall meet and be perpendicular to two given straight lines which are not in the same plane.

V. Solve the following equations:—

1. $$\frac{12x-16}{2x-3}+\frac{1-6x}{3x-2}=\frac{(2x-9)(2x-1)}{(x-1)(x-4)}$$

2. $$5^{x+2}-2.3^{x+3}=4.5^{x}+13.3^{x-1}$$

VI. Two trains, each 600 feet long running in opposite directions on a double line of rails, clear each other in 20 seconds. 2 minutes

43 seconds after clearing, one of the trains whistles; a man, stationed where the trains cleared each other, hears the whistle 2 minutes 49 seconds, and the driver of the other train hears the same 2 minutes 53½ seconds, after the clearance. Find the speeds of the trains and the velocity of sound.

VII. Sum to infinity the series

$$1\cdot2 + \tfrac{1}{4}\cdot3 + \tfrac{1}{8}\cdot4 + \tfrac{1}{16}\cdot5 + \tfrac{1}{32}\cdot6 + \ldots\ldots$$

VIII. Assuming the binomial theorem for a positive integral exponent, prove it for a positive fractional exponent

IX. Find what sum invested annually at 4 per cent. compound interest payable every year would amount in 30 years to Rs. 50,000. Given that $(1\cdot04)^{30} = 3\ 2434$.

X. An iron bridge is to be built with a water way of 2,400 feet. All the spans are to be of the same length. The cost of each pier will consist of a fixed sum Rs 10,000 together with another sum varying as the length of each span and equal in rupees to 25 times that length in feet. Each abutment (with wings) costs 2½ times as much as a pier. The cost of the superstructure will be 2,400 times the cost per foot run, and the cost per foot run will in rupees be equal to the length of a span in feet. How many spans should be adapted for economy of cost?

THURSDAY, 22ND JANUARY, 2 TO 5 P.M.

MENSURATION AND PLANE TRIGONOMETRY.

I. Prove geometrically $\cos(A + B) = \cos A \cos B - \sin A \sin B$, when both A and B are in the second quadrant and $A + B$ is in the third.

Show that $\cos 30^\circ = 4 \cos 10^\circ \cos 50^\circ \cos 70^\circ$.

II. Trace the changes in the tangent of an angle as the angle changes gradually from 0 to 2π.

III. Prove the exponential theorem and calculate the value of e correctly to six places of decimals.

IV. Two sides of a triangle are 76,375 feet and 48,646 feet, and the included angle is 41° 24′ 30″. Find the third side.

V. Find the area of a quadrilateral field $ABCD$; the side AB being 457 feet, BC 568 feet, CD 570 feet, DA 807 feet, and AC 793 ft.

VI. A circular curve in a main canal has to be set out with a theodolite and chain The curve is to have a radius of 80 chains and to be marked by pegs 1 chain apart. Find the angle which two consecutive pegs will subtend at one extremity of the curve where the theodolite will be set up. Given $\sin 0^\circ 21' = \cdot0061086$. $\sin 0^\circ 22' = \cdot0063995$.

VII. The wing wall of a tank sluice is as per accompanying drawing. Find its volume.

VIII. The intrados and extrados of an arch 33 feet long, 30 feet span, and 7 feet 6 inches rise, are true semi-ellipses. The thickness of arch at springing is 3 feet, and at the crown 2 feet. Find the volume of the arch and the surface of the intrados.

IX. The levels along a line of cutting *AB* are as under, ground being level across—

distance from A.	0	100′	200′	300′	400′ B
levels	23·8	20 6	18 4	19 2	20·0

The formation is to be 24 feet broad with slopes of 1½ to 1. Its level at A is to be 15·00 and at B 13 00. Find the volume of the cutting.

X Find the volume of a pyramid 80 feet high, which has 5 equilateral faces, meeting at the summit Given cot 36° = 1·3764.

FRIDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

ARCHITECTURAL DRAWING.

Design and draw to a scale of 4 feet to an inch the plan and cross section of a bungalow for a European workman. Ink, color, figure, letter, and finish as fully and neatly as time permits.

The bungalow to contain a sitting room and bedroom each 14′ × 12′, front and back verandahs 6′ wide inside pillars, with bathroom in the back verandah Floor to be 2′ over ground. Good foundations in clay at 3 feet below ground The building to be all of country brick in chunam, roof of pan tiles on flat tiles All timbers teak; doors and windows to be venetian except in bathroom, which are to be panel.

FRIDAY, 23RD JANUARY, 2 TO 5 P.M.

TOPOGRAPHICAL DRAWING.

I The accompanying contoured plan, scale 40 feet to 1 inch, represents a portion of a valley which is to become a tank The contours are at 4 feet vertical interval. AB is the centre line of the bund, which will have a slope of 1½ to 1 inside the tank, and of 2 to 1 outside. The top of the bund, 6 feet wide, is on the level of contour No. 11, and its reduced level is 60 34. The crest of the escape (which need not be shewn on the drawing) is at 52 84.

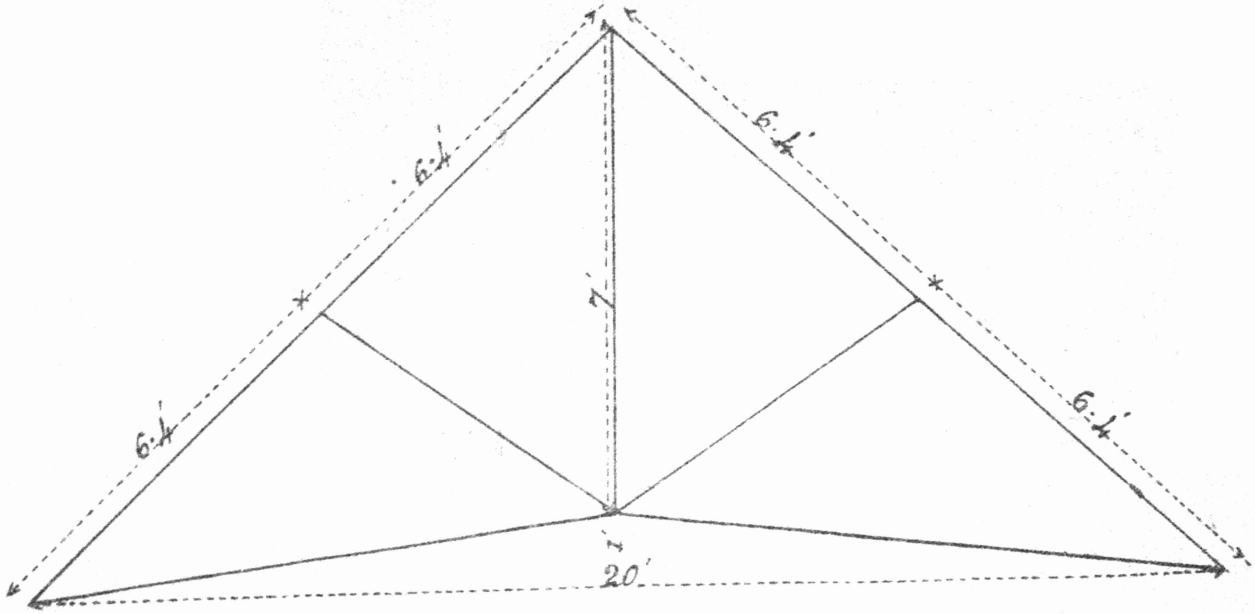
1 Draw a plan of the bund.

2 Shew the waterspread of the tank when full, so far as the limits of the contoured plan will allow.

3 Draw a cross section of the bund 50 feet from A. Scale 20 feet to 1 inch.

II. Make a drawing, to a scale of 6 inches to 1 mile, of an imaginary piece of ground, about 1½ square mile in area, introducing some of the following conventional signs:—*River, bridge, village, tank, wood, roads, a railway in bank and cutting, station buildings, canal with lock, wet and dry cultivation, single trees, &c.*

A portion of the drawing is to be coloured and finished in your best style. Quality rather than quantity of work should be aimed at.



Scale $\frac{1}{50}$

FRIDAY, 23RD JANUARY, 10 A.M. TO 1 P.M. AND 2 TO 5 P.M.

MACHINE DRAWING.

I. Prepare a complete and fully dimensioned working drawing of the detail of machinery placed before you, under conditions such as would be likely to occur in practice; that is, the object to be drawn will not be accessible from the drawing board, and must therefore be first carefully measured and sketched in a note book, and afterwards drawn out full size on the drawing board.

N B.—*As there will not be sufficient time to finish the drawings in ink and colour, they are to be prepared in good bold lines with a soft pencil. Sections to be brought prominently out by firm cross lining.*

II. Draw full size, and shade in Indian ink, the small object placed before you, to illustrate the forms and positions of the shadows upon it. The light to be considered as coming from the left hand top corner of the drawing board.

SATURDAY, 24TH JANUARY, 10 A.M. TO 1 P.M.

STATICS AND DYNAMICS.

I. Show that a system of forces in one plane can be reduced to a single force acting at an assigned point, and a couple Deduce the conditions of equilibrium.

II. A roof is carried on wrought iron trusses, of which the accompanying is a skeleton drawing. The trusses are placed 12 feet from centre to centre. Find graphically the stresses produced in the pieces by wind pressure acting on one side at the rate of 40 lb. per sq. ft

III State the experimental laws of friction.

A tramway is to be laid from a quarry to a work in progress. Trucks weighing 3 tons each are to be employed to carry 3 tons of stone each to the work and will return empty to the quarry Given all frictional resistances to be 30 lb per ton, what gradient should be given to the rails so that the coolies may exert the same amount of force in propelling the trucks during the up and down trips?

IV. Enumerate the simple machines. Are they distinct contrivances, in principle, or are any of them modifications of others?

A resistance of 2 tons has to be overcome by a power by means of a rigid lever moving round a fixed axle 2″ diameter, as shown in the accompanying drawing. The coefficient of friction at the axle being 2, find the power required.

V. Apply the principle of virtual work to find the mechanical advantage of a rough inclined plane, the power being supposed to act up the plane along the line of steepest slope.

VI. Two bodies of 15 lb. and 16 lb. masses, are connected by a flexible and weightless string, which passes over a smooth pin; and the system is in motion under the action of gravity. Find the tension of the string and the time of describing 40 feet from rest.

VII The path of a particle projected in vacuo and subject to the

action of gravity, considered constant in magnitude and direction, is a parabola.

VIII. A ball whose elasticity is $\frac{1}{2}$ is projected with a velocity of 240 feet per second so as to impinge on a smooth vertical wall 220 feet away and return to the point of projection. Find the necessary elevation of projection, given sin 19°28′ = ·3332584, sin 19°29′ = 3335326, $g = 32$.

IX. Prove, independently of the formula for the 'cycloidal pendulum,' that the time of oscillation of a 'simple pendulum' is $\sqrt{\frac{l}{g}}$. A pendulum, beating seconds at the sea level on the equator, loses 12 beats a day at another place on the equator. Find in feet the height of the latter above sea level; given the radius of the earth to be 3962 5 miles.

X. A heavy particle, suspended from a point by a weightless string 5 ft. long, describes a horizontal circle 8 ft. diameter. Find the tension of the string and the velocity of the particle.

SATURDAY, 24TH JANUARY, 2 TO 5 P.M.

HYDROSTATICS AND PNEUMATICS.

I. State the fundamental property of fluids, and explain the facts of the equal transmission of pressure and of the equality of pressure, in all directions, at any point of a fluid.

II. Distinguish between "whole pressure" and "resultant pressure." Find the whole and resultant pressures on the curved surface of a hollow right circular cone, filled with water, and having its base horizontal and vertex upwards. Explain how it happens that the pressure on the base of the cone exceeds the weight of water in the cone.

III. Explain the term "centre of pressure." The iron trough of an aqueduct is 3 feet high and carries as a maximum 3 feet depth of water. At 6 feet intervals, iron ties connect the tops of the sides of the trough and are at right angles to the length of the trough. Find the maximum tension in each tie.

IV. Find the centre of pressure on a vertical rectangular sluice shutter 3ft. high, when there is 12 feet of water over its top.

V. Find the conditions of equilibrium of a floating body. What condition should be satisfied for stability? A prism, whose cross section is a square, and whose specific gravity is $\frac{1}{2}$, floats in water with its axis horizontal. Find all the positions of equilibrium, and determine which are stable and which unstable.

VI. A navigation canal is carried over an aqueduct. Show that the passage of boats, however heavy, will not affect the stresses in the pieces of the aqueduct to any appreciable extent; but that the sinking of a boat will affect them.

VII. Define the term "specific gravity" and distinguish it from "density." How would you find the specific gravity of a piece of brick? Assuming data, give the calculation for finding it in a supposed case.

VIII Draw a diagram and explain the action of the hydraulic ram.

IX. Find the hoop-tension in the material of a hollow cylinder of diameter 2′ 6″ containing steam at a pressure of 100 lb. to the square inch Assuming the tension to be uniformly distributed, what should be the thickness of the cylinder, so that the intensity of stress may not exceed 4 tons per square inch?

X. Give the experimental proof of the law connecting the pressure and volume of a mass of gas at a constant temperature.

Smeaton's air pump has valves at the top and bottom of the barrel and in the piston, all opening outwards. If h be the range of the piston, a its distance when lowest from the bottom, and b its distance when highest from the top of the barrel, show that the limiting density of air in the receiver is $\frac{ab}{(a+h)(b+h)}$.

XI. Draw a diagram of a common pump and describe its action. Why will a pump not work well if the highest point of the range of the piston be more than about 25 ft from the surface of water to be pumped? What contrivance should be used if the height that water has to be raised is more than 25 or 30 feet?

L. T. DEGREE EXAMINATION, 1891.

MONDAY, 2ND MARCH, 10 A.M. TO 1 P.M.

PRINCIPLES OF EDUCATION.

I It is agreed that education rests ultimately on the science of mind, but the difficulty is to connect the two together. What do you consider the best way of establishing the *axiomata media*, or intermediate generalizations, connecting the former with the latter, and in what way may the teacher and the psychologist each contribute to bring about this desirable connection?

II Animadverting on the "faculty psychology," Mr. James Ward says:—"It is humiliating to reflect that this defunct doctrine of faculties, having first retarded the progress of psychology itself, should now be revived to darken knowledge under the guise of psychology applied to education"

Taking Dr Reid's system as representative of a "faculty psychology," what are its defects as professing to be a scientific account of the mind, and what are its main drawbacks when applied to education?

III. Discuss, without entering into details, (1) the assumption of crude experientialism that the mind at the dawn of experience is a *tabula rasa*; (2) the view of crude intuitionism that the mind is from the beginning furnished with certain intuitions, commonly known as innate ideas; (3) the doctrine that the mind starts with certain capacities and faculties which are either regarded as inherent in the very nature of mind, or are looked upon as inheritances from past generations.

To what extent is the task of the educator of the infant modified in (*a*) its aim, (*b*) its subject-matter, and (*c*) its methods, according as one or another of the above views is adopted?

IV. Is there any evidence to show that mental power, like brain power, is a limited quantity? Discuss the question on its merits. Assuming mental power to be thus limited, what are the most important inferences which the educationist may deduce from it?

V. Discuss the aim or aims of education. Show how far this aim or these aims are realizable by the means at the disposal of the schoolmaster. How do you explain the circumstance that the education furnished in scholastic institutions has been so largely intellectual?

VI Compare the deductive and the inductive methods of teaching, and discuss the appropriateness of each with reference to (1) the subject-matter of instruction, (2) the age of the pupil, and (3) the stage reached by the pupil in the branch of knowledge concerned.

VII. Explain clearly what is included under the expression "Moral education" as used in connection with the young. Mention the general characteristics of infancy and childhood which you consider to be (1) favourable, and (2) unfavourable to morality. Examine the evidence of the existence of a specifically moral motive in those early years What use would you make of inferior and non-moral motives in the earlier stages of ethical training?

VIII. "Ideas in the mind quickly fade," says Locke, "and often vanish quite out of the understanding, leaving no more footsteps or remaining characters of themselves, than shadows do flying over fields of corn: and the mind is as void of them as if they never had been there." What are the teachings of physiology and psychology as to the causes of this evanescence of ideas, and as to the means the use of which tends to secure ideas as permanent possessions of the mind?

IX. What are the alleged bases, psychological, or physiological, or both, of the following maxims:—1. Subjects requiring the severest mental strain should be taken up during the earlier part of the school-day 2. Comparatively difficult and comparatively easy subjects should alternate 3. Instruction should proceed from the simple to the complex. 4 Instruction should proceed from the concrete to the abstract. 5 Instruction should proceed from the particular to the general By what considerations would you determine the length of time that should be devoted to any one lesson?

Monday, 2nd March, 2 to 5 p.m.

PRINCIPLES OF EDUCATION.

1. It has been urged that according to the theory of evolution, education must, each generation, become less necessary because the amount of inherited faculty grows greater

Show that on the hypothesis of evolution the teacher's task is not less necessary, but, as far as it goes, more exacting, requiring greater care and skill.

II. What is meant by the training of the senses? How has its importance been recognized in modern systems of education?

Estimate the Kindergarten system as a preparatory training for the higher processes of the intellect.

III. Analyse the constructive faculty known as imagination, and show that it is an integral factor in intellectual processes. What is the function of the teacher in regard to the training of this faculty?

IV. Define Abstraction and Generalisation, and show how they are related to each other.

It is said that children delight in the concrete and find abstraction arduous and distasteful. In so far as this remark is true, how will you explain this characteristic?

Give some plain instructions as to how a teacher should proceed in training the power of abstraction and generalisation in children.

V. How is the term judgment used in mental science? What is meant when it is said that a person has a high or low power of judgment? How is the power of judgment to be developed in children? Where would you draw the line between individual independence and deference to authority in the exercise of judgment by the young?

VI. What are the chief characteristics of children's feelings? Classify the emotional sensibilities of children according as they require to be repressed or stimulated. Is it the repression or the stimulation that the educator should regard as his chief function? Give reasons.

"In the matter of feelings," says James Sully, "It is emphatically true that prevention is better than cure." Explain and exemplify.

VII. Show that a proper training of the Will includes, in a measure, the exercise of the intellectual powers and the cultivation of the emotions.

VIII. Write an essay expounding your views on the question of moral teaching in schools by separate lessons.

TUESDAY, 3RD MARCH, 10 A.M. TO 1 P.M.

HISTORY OF EDUCATION.

Milton's *Tractate on Education* and Quick's *Educational Reformers*.

I. "Things" *versus* "Words". For the last two hundred years this great struggle has been going on among educationists. Explain fully. Who have been the leaders in the fight, and what point have we now reached?

II. For what classes of the community did Milton draw up his scheme of education as set forth in his tract to Hartlib?

What was Milton's idea of a "compleat and generous education"?

III. Give fully Milton's views on physical education and on foreign travel. Compare his views on the latter subject with those of Locke.

IV. Give (with approximate dates of publication) some account of each of the following works and of the circumstances in which they were written:—the "Scholemaster; the "Ratio Studiorum;" the "Orbis Pictus;" "Emile;" "Leonard and Gertrude." Which of them has had the greatest influence on modern education? Show how.

V. Write full notes on (1) *Pestalozzianism*, (2) *the Kindergarten system*, (3) *the Innovators*. Whom does Mr. Quick style the "Coryphæus of the Innovators," and why?

VI. What were Locke's views regarding rewards and punishments? How far do they conflict or fall in with more modern views?

VII. Give a succinct account of the "Philanthropin" and its founder, and show the influence it has had on education.

VIII. "*Tout est dans tout*" (all is in all.) Discuss this maxim, or 'paradox,' as Mr. Quick calls it. Who is the author of it?

IX. What are the chief principles of intellectual education as laid down by Mr. Herbert Spencer? How far does Mr. Quick agree or disagree with him?

TUESDAY, 3RD MARCH, 2 TO 5 P.M.

HISTORY OF EDUCATION.

I. Describe in general terms the organisation of a mediæval university. Describe the present organization of some one university of ancient origin, so as to illustrate the development of university education since the close of the Middle Ages

II. What educational changes and developments in Germany may be attributed to the Protestant Reformation?

III To what extent was Fröebel brought into personal contact with Pestalozzi? How far was his educational work a continuation and development of that of Pestalozzi?

IV. Sketch the history of state interference with elementary education in England, and give a clear account of the present organisation of the latter.

V. Give a brief account of each of the following works, estimating their value as contributions to educational theory and practice:—Levana; The Training System; Novissima Linguarum Methodus; Mrs Trimmer's Pamphlets and letter to Dr. Bell; The Advancement of Learning.

VI. Describe fully the present system of state secondary education in Germany, and compare it with the system now in force in the Madras Presidency.

VII. Sketch the history of public education of all grades in France from the Revolution to the establishment of the Second Empire.

WEDNESDAY, 4TH MARCH, 11 A.M. TO 1 P.M

METHODS OF TEACHING AND SCHOOL MANAGEMENT.

I. 1. If the choice of a site for a new High School building

were left to you, what considerations would determine your selection of it?

2. Draw a ground plan of a building adapted to accommodate six classes from the third to the upper secondary, the numbers in the several classes varying between 40 in the lowest and 25 in the highest, indicating on your plan where each class should be located. Give your reasons for determining the size of each room and the location of each class.

II. What arrangements should be made for securing the proper sanitary condition of a school-house and its surroundings? Mention the evils that arise from the insanitary condition of a school

III. State the various ways in which physical exercise may beneficially be taken by school-boys in this country; and say in what way a judiciously arranged series of gymnastic exercises is superior, and in what way inferior, to exercises of other kinds

IV. What provision of books should be made for a High School of the kind indicated in the first question, care being taken that the wants of all the classes are attended to?

State the appliances necessary for the effective teaching of the following subjects in their elementary as well as more advanced stages.—Arithmetic, General Geography, and History.

V. Draw out a form of Admission Register suitable for a High School, number the columns, and state the object of each entry. (The form, being rather large, may be exhibited in two or more sections.)

VI Mention the conditions which a satisfactory system of classification should fulfil.

VII. Remark on the employment of commendation and censure as aids to discipline.

Wednesday, 4th March, 2 to 4 p.m.

METHODS OF TEACHING AND SCHOOL MANAGEMENT.

I. 1. State generally how grammar should be taught to children.

2. Sketch a lesson on one of the following subjects:—(*a*) one of the parts of speech; (*b*) one of the inflexions; (*c*) one of the syntactical relations.

3. What are the chief requisites for accurate speaking and writing? How would you teach composition?

II. 1. At what stage in a course of arithmetical teaching would you teach 'the rule of three' by means of ratios? Give your reasons. What illustrations would you use and what kind of questions would you ask to familiarise your class with the ideas of ratio and proportion?

2 Prove, as you would to a class, that all vulgar fractions have equivalent decimals terminating or circulating.

3. How would you show that it is sometimes advantageous to use decimals in preference to vulgar fractions?

III. 1. Suppose you are just beginning algebra with a class, sketch your introductory lesson

2. Work out fully, using words instead of algebraical symbols, any problem which would serve to show your pupils the value of algebra as generalised arithmetic

IV. 1. How must geography be taught to be of educative value

2. Are the small geographical epitomes, which contain little more than a mere list of names, of any educational value? If so, when and how may they be legitimately used?

V. What is meant by 'picturing out'? In what kind of teaching is the faculty of picturing out especially required in the teacher?